

Sequence Listing

<110> Ashkenazi, Avi
 Baker Kevin P.
 Botstein, David
 Desnoyers, Luc
 Eaton, Dan
 Ferrara, Napoleon
 Filvaroff, Ellen
 Fong, Sherman
 Gao, Wei-Qiang
 Gerber, Hanspeter
 Gerritsen, Mary E.
 Goddard, Audrey
 Godowski, Paul J.
 Grimaldi, J. Christopher
 Gurney, Austin L.
 Hillan, Kenneth J
 Kljavin, Ivar J.
 Kuo, Sophia S.
 Napier, Mary A.
 Pan, James;
 Paoni, Nicholas F.
 Roy, Margaret Ann
 Shelton, David L.
 Stewart, Timothy A.
 Tumas, Daniel
 Williams, P. Mickey
 Wood, William I.

<120> Secreted and Transmembrane Polypeptides and Nucleic
 Acids Encoding the Same

<130> P2630P1C73

<150> 09/918585
 <151> 2001-07-30

<150> 60/062250
 <151> 1997-10-17

<150> 60/064249
 <151> 1997-11-03

<150> 60/065311
 <151> 1997-11-13

<150> 60/066364
 <151> 1997-11-21

<150> 60/077450
 <151> 1998-03-10

<150> 60/077632
 <151> 1998-03-11

<150> 60/077641
 <151> 1998-03-11

60/077649
1998-03-11
60/077791
1998-03-12
60/078004
1998-03-13
60/078886
1998-03-20
60/078936
1998-03-20
60/078910
1998-03-20
60/078939
1998-03-20
60/079294
1998-03-25
60/079656
1998-03-26
60/079664
1998-03-27
60/079689
1998-03-27
60/079663
1998-03-27
60/079728
1998-03-27
60/079786
1998-03-27
60/079920
1998-03-30
60/079923
1998-03-30
60/080105
1998-03-31
60/080107
1998-03-31
60/080165
1998-03-31
60/080194

<150> 60/077649
<151> 1998-03-11

<150> 60/077791
<151> 1998-03-12

<150> 60/078004
<151> 1998-03-13

<150> 60/078886
<151> 1998-03-20

<150> 60/078936
<151> 1998-03-20

<150> 60/078910
<151> 1998-03-20

<150> 60/078939
<151> 1998-03-20

<150> 60/079294
<151> 1998-03-25

<150> 60/079656
<151> 1998-03-26

<150> 60/079664
<151> 1998-03-27

<150> 60/079689
<151> 1998-03-27

<150> 60/079663
<151> 1998-03-27

<150> 60/079728
<151> 1998-03-27

<150> 60/079786
<151> 1998-03-27

<150> 60/079920
<151> 1998-03-30

<150> 60/079923
<151> 1998-03-30

<150> 60/080105
<151> 1998-03-31

<150> 60/080107
<151> 1998-03-31

<150> 60/080165
<151> 1998-03-31

<150> 60/080194

[illegible]

```
[150> 60/082804
[151> 1998-04-22
```

<150> 60/082700
<151> 1998-04-22

<150> 60/082797
<151> 1998-04-22

<150> 60/082796
<151> 1998-04-23

<150> 60/083336
<151> 1998-04-27

<150> 60/083322
<151> 1998-04-28

<150> 60/083392
<151> 1998-04-29

<150> 60/083495
<151> 1998-04-29

<150> 60/083496
<151> 1998-04-29

<150> 60/083499
<151> 1998-04-29

<150> 60/083545
<151> 1998-04-29

<150> 60/083554
<151> 1998-04-29

<150> 60/083558
<151> 1998-04-29

<150> 60/083559
<151> 1998-04-29

<150> 60/083500
<151> 1998-04-29

<150> 60/083742
<151> 1998-04-30

<150> 60/084366
<151> 1998-05-05

<150> 60/084414
<151> 1998-05-06

<150> 60/084441
<151> 1998-05-06

<150> 60/084637
<151> 1998-05-07

<150> 60/084639

<151> 1998-05-07

<150> 60/084640

<151> 1998-05-07

<150> 60/084598

<151> 1998-05-07

<150> 60/084600

<151> 1998-5-07

<150> 60/084627

<151> 1998-05-07

<150> 60/084643

<151> 1998-05-07

<150> 60/085339

<151> 1998-05-13

<150> 60/085338

<151> 1998-05-13

<150> 60/085323

<151> 1998-05-13

<150> 60/085582

<151> 1998-05-15

<150> 60/085700

<151> 1998-05-15

<150> 60/085689

<151> 1998-05-15

<150> 60/085579

<151> 1998-05-15

<150> 60/085580

<151> 1998-05-15

<150> 60/085573

<151> 1998-05-15

<150> 60/085704

<151> 1998-05-15

<150> 60/085697

<151> 1998-05-15

<150> 60/086023

<151> 1998-05-18

<150> 60/086430

<151> 1998-05-22

<150> 60/086392

<151> 1998-05-22

<150> 60/086486
<151> 1998-05-22

<150> 60/086414
<151> 1998-05-22

<150> 60/087208
<151> 1998-05-28

<150> 60/087106
<151> 1998-05-28

<150> 60/087098
<151> 1998-05-28

<150> 60/091010
<151> 1998-06-26

<150> 60/090863
<151> 1998-06-26

<150> 60/091359
<151> 1998-07-01

<150> 60/094651
<151> 1998-07-30

<150> 60/100038
<151> 1998-09-11

<150> 60/109304
<151> 1998-11-20

<150> 60/113296
<151> 1998-12-22

<150> 60/113621
<151> 1998-12-23

<150> 60/123957
<151> 1999-03-12

<150> 60/126773
<151> 1999-03-29

<150> 60/130232
<151> 1999-04-21

<150> 60/131022
<151> 1999-04-26

<150> 60/131445
<151> 1999-04-28

<150> 60/134287
<151> 1999-05-14

<150> 60/139557

<151> 1999-06-16

<150> 60/141037

<151> 1999-06-23

<150> 60/142680

<151> 1999-07-07

<150> 60/145698

<151> 1999-07-26

<150> 60/146222

<151> 1999-07-28

<150> 60/162506

<151> 1999-10-29

<150> 09/040220

<151> 1998- 03-17

<150> 09/105413

<151> 1998-06-26

<150> 09/168978

<151> 1998-10-07

<150> 09/184216

<151> 1998-11-02

<150> 09/187368

<151> 1998-11-06

<150> 09/202054

<151> 1998-12-07

<150> 09/218517

<151> 1998-12-22

<150> 09/254465

<151> 1999-03-05

<150> 09/265686

<151> 1999-03-10

<150> 09/267213

<151> 1999-03-12

<150> 09/284291

<151> 1999-04-12

<150> 09/311832

<151> 1999-05-14

<150> 09/380137

<151> 1999-08-25

<150> 09/380138

<151> 1999-08-25

<150> 09/380142
<151> 1999-08-25

<150> 09/709238
<151> 2000-11-08

<150> 09/723749
<151> 2000-11-27

<150> 09/747259
<151> 2000-12-20

<150> 09/816744
<151> 2001-03-22

<150> 09/816920
<151> 2001-03-22

<150> 09/854280
<151> 2001-05-10

<150> 09/854208
<151> 2001-05-10

<150> 09/872035
<151> 2001-06-01

<150> 09/874503
<151> 2001-06-05

<150> 09/882636
<151> 2001-06-14

<150> 09/886342
<151> 2001- 06-19

<150> PCT/US98/21141
<151> 1998-10-07

<150> PCT/US98/24855
<151> 1998-11-20

<150> PCT/US99/00106
<151> 1999-01-05

<150> PCT/US99/05028
<151> 1999-03-08

<150> PCT/US99/05190
<151> 1999-03-10

<150> PCT/US99/10733
<151> 1999-05-14

<150> PCT/US99/12252
<151> 1999-06-02

<150> PCT/US99/28313

<151> 1999-11-30
<150> PCT/US99/28551
<151> 1999-12-02

<150> PCT/US99/28565
<151> 1999-12-02

<150> PCT/US99/30095
<151> 1999-12-16

<150> PCT/US99/31243
<151> 1999-12-30

<150> PCT/US99/31274
<151> 1999-12-30

<150> PCT/US00/00219
<151> 2000-05-01

<150> PCT/US00/00277
<151> 2000-01-06

<150> PCT/US00/00376
<151> 2000-01-06

<150> PCT/US00/03565
<151> 2000-02-11

<150> PCT/US00/04341
<151> 2000-02-18

<150> PCT/US00/05841
<151> 2000-03-02

<150> PCT/US00/07532
<151> 2000-03-21

<150> PCT/US00/05004
<151> 2000-02-24

<150> PCT/US00/06319
<151> 2000-03-10

<150> PCT/US00/08439
<151> 2000-03-30

<150> PCT/US00/13705
<151> 2000-05-17

<150> PCT/US00/14042
<151> 2000-05-22

<150> PCT/US00/14941
<151> 2000-05-30

<150> PCT/US00/15264
<151> 2000-06-02

<150> PCT/US00/20710
<151> 2000-07-28

<150> PCT/US00/23328
<151> 2000-08-24

<150> PCT/US00/32678
<151> 2000-12-01

<150> PCT/US00/34956
<151> 2000-12-20

<150> PCT/US01/06520
<151> 2001-02-28

<150> PCT/US01/09552
<151> 2001-03-22

<150> PCT/US01/17092
<151> 2001-05-25

<150> PCT/US01/17800
<151> 2001-06-01

<150> PCT/US01/19692
<151> 2001-06-20

<150> PCT/US01/21066
<151> 2001-06-29

<150> PCT/US01/21735
<151> 2001-07-09

<160> 624

<210> 1

<211> 1743

<212> DNA

<213> Homo sapiens

<400> 1

ccaggtccaa ctgcacctcg gttctatcga ttgaattccc cggggatcct 50
ctagagatcc ctgcacctcg acccacgcgt ccgccaagct ggccctgcac 100
ggctgcaagg gaggtcctg tggacaggcc aggcaggtgg gcctcaggag 150
gtgcctccag gcggccagtg ggccctgaggc ccagcaagg gctaggggtcc 200
atctccagtc ccaggacaca gcagcggcca ccatggccac gcctggggtc 250
cagcagcatc agcagcccc aggaccgggg gaggcacagg tggccccac 300
caccggagg agcagctcct gccctgtcc gggggatgac tgattctcct 350
ccgccaggcc acccagagga gaaggccacc ccgcctggag gcacaggcca 400
tgaggggctc tcaggagggtg ctgctgatgt ggcttctggt gttggcagtg 450

<210> 3
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 3
 tggagcagca atatgccagc c 21

<210> 4
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 4
 ttttccactc ctgtcgggtt gg 22

<210> 5
 <211> 46
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 5
 ggtgacactt gccagtcaga tgtggatgaa tgcagtgcta ggaggg 46

<210> 6
 <211> 2945
 <212> DNA
 <213> Homo sapiens

<400> 6
 cgctcgcccc gtcgccccct gcctccccgc agagtcccct cgcggcagca 50
 gatgtgtgtg gggtcagccc acggcgggga ctatggtgaa attcccggcg 100
 ctcaagcact actggcccct gatccggttc ttggtgcccc tgggcatcac 150
 caacatagcc atcgacttcg gggagcaggc cttgaaccgg ggcattgctg 200
 ctgtcaagga ggatgcagtc gagatgctgg ccagctacgg gctggcgta 250
 tccctcatga agttcttcac ggggtcccatg agtgacttca aaaatgtggg 300
 cctgggtgttt gtgaacagca agagagacag gaccaaagcc gtcctgtgta 350
 tgggtggtggc agggggccatc gctgccgtct ttcacacact gatagcttat 400
 agtgatttag gatactacat tatcaataaa ctgcaccatg tggacgagtc 450

ggtggggagc aagacgagaa gggccttcct gtacctcgcc gcctttcctt 500
 tcatggacgc aatggcatgg acccatgctg gcattctctt aaaacacaaa 550
 tacagtttcc tgggtgggatg tgcctcaatc tcagatgtca tagctcaggt 600
 tgtttttgta gccattttgc ttcacagtca cctggaatgc cgggagcccc 650
 tgctcatccc gatcctctcc ttgtacatgg gcgcaattgt gcgctgcacc 700
 accctgtgcc tgggctacta caagaacatt cacgacatca tccctgacag 750
 aagtggcccc gagctggggg gagatgcaac aataagaaag atgctgagct 800
 tctggtggcc tttggctcta attctggcca cacagagaat cagtcggcct 850
 attgtcaacc tctttgtttc cggggacctt ggtggcagtt ctgcagccac 900
 agaggcagtg gcgattttga cagccacata ccctgtgggt cacatgccat 950
 acggctgggt gacggaaatc cgtgctgtgt atcctgcttt cgacaagaat 1000
 aaccccagca acaaactggg gagcacgagc aacacagtca cggcagccca 1050
 catcaagaag ttcaccttcg tctgcatggc tctgtcactc acgctctgtt 1100
 tcgtgatgtt ttggacaccc aacgtgtctg agaaaatctt gatagacatc 1150
 atcggagtgg actttgcctt tgcagaactc tgtgttggtc ctttgcggt 1200
 cttctccttc ttcccagttc cagtcacagt gaggcgcat ctcaccgggt 1250
 ggctgatgac actgaagaaa accttcgtcc ttgccccag ctctgtgctg 1300
 cggatcatcg tctcatcgcc cagcctcgtg gtctaccct acctgggggt 1350
 gcacggtgag acctggggc tgggctccct cctggcgggc tttgtgggag 1400
 aatccaccat ggtcgccatc gctgcgtgct atgtctaccg gaagcagaaa 1450
 aagaagatgg agaattgagc ggccacggag ggggaagact ctgcatgac 1500
 agacatgcct ccgacagagg aggtgacaga catcgtggaa atgagagagg 1550
 agaattgaata aggcacggga cgccatgggc actgcaggga cggtcagtca 1600
 ggatgacact tcggcatcat ctctccctc tcccatcgta tttgttccc 1650
 ttttttttgt tttgttttgg taatgaaaga ggccttgatt taaaggtttc 1700
 gtgtcaattc tctagcatac tgggtatgct cactgacg gggggacct 1750
 gtgaatggtc ttactgttg ctatgtaaaa acaaacgaaa caactgactt 1800
 cataccctg cctcacgaaa acccaaaaga cacagctgcc tcacggttga 1850
 cgttgtgtcc tcctccctg gacaatctcc tcttgaacc aaaggactgc 1900

```

agctgtgccca tcgcgcctcg gtcaccctgc acagcaggcc acagactctc 1950
ctgtccccct tcatcgctct taagaatcaa cagggttaaaa ctgggcttcc 2000
tttgatttgc ttcccagtca catggccgta caaagagatg gagccccggt 2050
ggcctcttaa atttcccttc tgccacggag ttcgaaacca tctactccac 2100
acatgcagga ggcgggtggc acgtgcagc ccggagtccc cgttcacact 2150
gaggaacgga gacctgtgac cacagcaggc tgacagatgg acagaatctc 2200
ccgtagaaag gtttggtttg aaatgccccg ggggcagcaa actgacatgg 2250
ttgaatgata gcatttcact ctgcgttctc ctagatctga gcaagctgtc 2300
agttctcacc cccaccgtgt atatacatga gctaactttt ttaaattgtc 2350
acaaaagcgc atctccagat tccagaccct gccgcatgac ttttcctgaa 2400
ggcttgcttt tccctcgctt ttcctgaagg tcgcattaga gcgagtcaca 2450
tggagcatcc taactttgca ttttagtttt tacagtgaac tgaagcttta 2500
agtctcatcc agcattctaa tgccagggtg ctgtagggta acttttgaag 2550
tagatatatt acctggttct gctatcctta gtcataactc tgcggtacag 2600
gtaattgaga atgtactacg gtacttccct cccacacccat acgataaagc 2650
aagacatttt ataacgatac cagagtcact atgtggtcct ccctgaaata 2700
acgcattcga aatccatgca gtgcagtata tttttctaag ttttggaag 2750
caggtttttt cctttaaaaa aattatagac acggttcact aaattgattt 2800
agtcagaatt cctagactga aagaacctaa aaaaaaaaaat attttaaaga 2850
tataaatata tgctgtatat gttatgtaat ttattttagg ctataataca 2900
tttctatatt tcgcattttc aataaaatgt ctctaataca aaaaa 2945

```

```

<210> 7
<211> 492
<212> PRT
<213> Homo sapiens

```

```

<400> 7
Met Val Lys Phe Pro Ala Leu Thr His Tyr Trp Pro Leu Ile Arg
 1             5             10             15
Phe Leu Val Pro Leu Gly Ile Thr Asn Ile Ala Ile Asp Phe Gly
                20             25             30
Glu Gln Ala Leu Asn Arg Gly Ile Ala Ala Val Lys Glu Asp Ala
                35             40             45
Val Glu Met Leu Ala Ser Tyr Gly Leu Ala Tyr Ser Leu Met Lys

```

	50		55		60
Phe Phe Thr Gly Pro Met Ser Asp Phe Lys Asn Val Gly Leu Val	65		70		75
Phe Val Asn Ser Lys Arg Asp Arg Thr Lys Ala Val Leu Cys Met	80		85		90
Val Val Ala Gly Ala Ile Ala Ala Val Phe His Thr Leu Ile Ala	95		100		105
Tyr Ser Asp Leu Gly Tyr Tyr Ile Ile Asn Lys Leu His His Val	110		115		120
Asp Glu Ser Val Gly Ser Lys Thr Arg Arg Ala Phe Leu Tyr Leu	125		130		135
Ala Ala Phe Pro Phe Met Asp Ala Met Ala Trp Thr His Ala Gly	140		145		150
Ile Leu Leu Lys His Lys Tyr Ser Phe Leu Val Gly Cys Ala Ser	155		160		165
Ile Ser Asp Val Ile Ala Gln Val Val Phe Val Ala Ile Leu Leu	170		175		180
His Ser His Leu Glu Cys Arg Glu Pro Leu Leu Ile Pro Ile Leu	185		190		195
Ser Leu Tyr Met Gly Ala Leu Val Arg Cys Thr Thr Leu Cys Leu	200		205		210
Gly Tyr Tyr Lys Asn Ile His Asp Ile Ile Pro Asp Arg Ser Gly	215		220		225
Pro Glu Leu Gly Gly Asp Ala Thr Ile Arg Lys Met Leu Ser Phe	230		235		240
Trp Trp Pro Leu Ala Leu Ile Leu Ala Thr Gln Arg Ile Ser Arg	245		250		255
Pro Ile Val Asn Leu Phe Val Ser Arg Asp Leu Gly Gly Ser Ser	260		265		270
Ala Ala Thr Glu Ala Val Ala Ile Leu Thr Ala Thr Tyr Pro Val	275		280		285
Gly His Met Pro Tyr Gly Trp Leu Thr Glu Ile Arg Ala Val Tyr	290		295		300
Pro Ala Phe Asp Lys Asn Asn Pro Ser Asn Lys Leu Val Ser Thr	305		310		315
Ser Asn Thr Val Thr Ala Ala His Ile Lys Lys Phe Thr Phe Val	320		325		330
Cys Met Ala Leu Ser Leu Thr Leu Cys Phe Val Met Phe Trp Thr	335		340		345

Pro Asn Val Ser	Glu Lys Ile Leu Ile	Asp Ile Ile Gly Val Asp
350		355 360
Phe Ala Phe Ala	Glu Leu Cys Val Val	Pro Leu Arg Ile Phe Ser
365		370 375
Phe Phe Pro Val	Pro Val Thr Val Arg	Ala His Leu Thr Gly Trp
380		385 390
Leu Met Thr Leu	Lys Lys Thr Phe Val	Leu Ala Pro Ser Ser Val
395		400 405
Leu Arg Ile Ile	Val Leu Ile Ala Ser	Leu Val Val Leu Pro Tyr
410		415 420
Leu Gly Val His	Gly Ala Thr Leu Gly	Val Gly Ser Leu Leu Ala
425		430 435
Gly Phe Val Gly	Glu Ser Thr Met Val	Ala Ile Ala Ala Cys Tyr
440		445 450
Val Tyr Arg Lys	Gln Lys Lys Lys Met	Glu Asn Glu Ser Ala Thr
455		460 465
Glu Gly Glu Asp	Ser Ala Met Thr Asp	Met Pro Pro Thr Glu Glu
470		475 480
Val Thr Asp Ile	Val Glu Met Arg Glu	Glu Asn Glu
485		490

<210> 8
 <211> 535
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 33, 66, 96, 387
 <223> unknown base

<400> 8
 cctgacagaa gtgccccgga gctgggggag atncaacatt aagaagatgc 50
 tgagcttctg gtgccttttg gctctaattc tggccacaca gagaancagt 100
 cggcctattg tcaacctctt tgtttcccg gaccttggtg gcagttctgc 150
 agccacagag gcagtggcga ttttgacagc cacataccct gtgggtcaca 200
 tgccatacgg ctggttgacg gaaatccgtg ctgtgtatcc tgctttcgac 250
 aagaataacc ccagcaacaa actggtgagc acgagcaaca cagtcacggc 300
 ggccacatc aagaagttca ccttcgtctg catggctctg tcaactcagc 350
 tctgtttcgt gatgttttgg acacccaacg tgtctgngaa aatcttgata 400
 gacatcatcg gagtggactt tgcctttgca gaactctgtg ttgttccttt 450

gcggatcttc tccttcttcc cagttccagt cacagtgagg gcgcattctca 500

ccgggtgggt gatgacactg aagaaaacct tcgtc 535

<210> 9

<211> 434

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 32, 54, 80, 111, 117, 122, 139, 193, 205, 221, 226, 228, 273,
293, 296, 305, 336, 358, 361

<223> unknown base

<400> 9

tgacggaatc ccgggctggg tctcctggtt tngacaagat aaacccccag 50

caanaaattg gggagcaggg caaaacagtn acgggcagcc cacatcaaga 100

agttcacctt ngtttgnatg gntctgtcaa ctacacgtnt gtttcgtgat 150

gttttgagaca cccaaagtgt ttgagaaaat tttgatagac atnatcggag 200

tggantttgc ctttgcagaa ntttgngntg ttcctttgcg gattttctcc 250

tttttcccag ttccagtcac agngagggcg catctcaccg ggnggntgat 300

gacantgaag aaaacctttg tccttgcccc cagctntttg gtgcgggatca 350

ttgtcctnat ngccagcctt gtggtcctac cctacctggg ggtgcacggt 400

gcgaccctgg gcgtgggttc cctcctggcg ggca 434

<210> 10

<211> 154

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 33, 49, 68, 83, 90, 98, 119

<223> unknown base

<400> 10

tattccagc tccggtcacg gggagggcgc atntcaccgg gtggctgang 50

acactgaaga aaaccttngt ccttgcccc agntttgtgn tgcggatnat 100

cgtcctcatc gccagcctng tggctctacc ctacctgggg gtgcacggtg 150

agac 154

<210> 11

<211> 24

<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 11
ctgatccggt tcttggtgcc cctg 24

<210> 12
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 12
gctctgtcac tcacgctc 18

<210> 13
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 13
tcattctcttc cctctccc 18

<210> 14
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 14
ccttcgcgcca cggagttc 18

<210> 15
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 15
ggcaaagtcc actccgatga tgtc 24

<210> 16
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 16
gcctgctgtg gtcacaggtc tccg 24

<210> 17
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 17
tcggggagca ggccttgaac cggggcattg ctgctgtcaa ggagg 45

<210> 18
<211> 1901
<212> DNA
<213> Homo sapiens

<400> 18
gccccgcgcc cggcgccggg cgcccgaagc cgggagccac cgccatgggg 50
gcctgcctgg gagcctgctc cctgctcagc tgcgcgtcct gcctctgcgg 100
ctctgcccc tgcctcctgt gcagctgctg ccccgccagc cgcaactcca 150
ccgtgagccg cctcatcttc acgttcttcc tcttctgagg ggtgctggtg 200
tccatcatta tgctgagccc gggcgtggag agtcagctct acaagctgcc 250
ctgggtgtgt gaggaggggg ccgggatccc caccgtcctg cagggccaca 300
tcgactgtgg ctccctgctt ggctaccgag ctgtctaccg catgtgcttc 350
gccacggcgg ccttcttctt cttctttttt accctgctca tgcctctggt 400
gagcagcagc cgggaccccc gggctgccat ccagaatggg ttttggttct 450
ttaagttcct gatcctggtg ggcctcaccg tgggtgcctt ctacatccct 500
gacggctcct tcaccaacat ctggttctac ttggcgctog tgggctcctt 550
cctcttcctc ctcatccagc tgggtgctgt catcgacttt gcgcactcct 600
ggaaccagcg gtggctgggc aaggccgagg agtgcgattc ccgtgcctgg 650
tacgcaggcc tcttcttctt cactctcttc ttctacttgc tgtcgatcgc 700
ggccgtggcg ctgatgttca tgtactacac tgagcccagc ggctgccacg 750
agggcaaggt ctcatcagc ctcaacctca ccttctgtgt ctgcgtgtcc 800
atcgctgctg tcctgcccc ggtccaggac gccagccca actcgggtct 850
gctgcaggcc tcggatcatc cctctacac catgtttgtc acctggtcag 900
ccctatccag tatccctgaa cagaaatgca accccattt gccaacccag 950

ctgggcaacg agacagttgt ggcaggcccc gagggctatg agaccagtg 1000
 gtgggatgcc cagagcattg tgggcctcat catcttcctc ctgtgcaccc 1050
 tottcatcag totgcgctcc tcagaccacc ggcaggtgaa cagcctgatg 1100
 cagaccgagg agtgcaccacc tatgctagac gccacacagc agcagcagca 1150
 gcaggtggca gcctgtgagg gccgggcctt tgacaacgag caggacggcg 1200
 tcacctacag ctactccttc ttccacttct gcctggtgct ggcctcactg 1250
 cacgtcatga tgacgctcac caactggtac aagcccgggtg agaccggaa 1300
 gatgatcagc acgtggaccg ccgtgtgggt gaagatctgt gccagctggg 1350
 cagggctgct cctctacctg tggaccctgg tagccccact cctcctgcgc 1400
 aaccgcgact tcagctgagg cagcctcaca gcctgccatc tgggtgcctcc 1450
 tgccacctgg tgcctctcgg ctcggtgaca gccaacctgc cccctcccca 1500
 caccaatcag ccaggctgag cccccacccc tgccccagct ccaggacctg 1550
 cccctgagcc gggccttcta gtcgtagtgc cttcagggtc cgaggagcat 1600
 caggctcctg cagagcccca tcccccgcc acaccacac ggtggagctg 1650
 cctcttcctt cccctcctcc ctgttgccca tactcagcat ctcggatgaa 1700
 agggctccct tgtcctcagg ctccacggga gcggggctgc tggagagagc 1750
 ggggaactcc caccacagtg gggcatccgg cactgaagcc ctggtgttcc 1800
 tggtcacgtc ccccagggga cctgcccc ttctggact tcgtgcctta 1850
 ctgagtctct aagacttttt ctaataaaca agccagtgcg tgtaaaaaaa 1900
 a 1901

<210> 19

<211> 457

<212> PRT

<213> Homo sapiens

<400> 19

Met	Gly	Ala	Cys	Leu	Gly	Ala	Cys	Ser	Leu	Leu	Ser	Cys	Ala	Ser
1				5					10				15	

Cys	Leu	Cys	Gly	Ser	Ala	Pro	Cys	Ile	Leu	Cys	Ser	Cys	Cys	Pro
			20						25				30	

Ala	Ser	Arg	Asn	Ser	Thr	Val	Ser	Arg	Leu	Ile	Phe	Thr	Phe	Phe
			35						40				45	

Leu	Phe	Leu	Gly	Val	Leu	Val	Ser	Ile	Ile	Met	Leu	Ser	Pro	Gly
			50						55				60	

Val	Glu	Ser	Gln	Leu	Tyr	Lys	Leu	Pro	Trp	Val	Cys	Glu	Glu	Gly	65	70	75
Ala	Gly	Ile	Pro	Thr	Val	Leu	Gln	Gly	His	Ile	Asp	Cys	Gly	Ser	80	85	90
Leu	Leu	Gly	Tyr	Arg	Ala	Val	Tyr	Arg	Met	Cys	Phe	Ala	Thr	Ala	95	100	105
Ala	Phe	Phe	Phe	Phe	Phe	Phe	Thr	Leu	Leu	Met	Leu	Cys	Val	Ser	110	115	120
Ser	Ser	Arg	Asp	Pro	Arg	Ala	Ala	Ile	Gln	Asn	Gly	Phe	Trp	Phe	125	130	135
Phe	Lys	Phe	Leu	Ile	Leu	Val	Gly	Leu	Thr	Val	Gly	Ala	Phe	Tyr	140	145	150
Ile	Pro	Asp	Gly	Ser	Phe	Thr	Asn	Ile	Trp	Phe	Tyr	Phe	Gly	Val	155	160	165
Val	Gly	Ser	Phe	Leu	Phe	Ile	Leu	Ile	Gln	Leu	Val	Leu	Leu	Ile	170	175	180
Asp	Phe	Ala	His	Ser	Trp	Asn	Gln	Arg	Trp	Leu	Gly	Lys	Ala	Glu	185	190	195
Glu	Cys	Asp	Ser	Arg	Ala	Trp	Tyr	Ala	Gly	Leu	Phe	Phe	Phe	Thr	200	205	210
Leu	Leu	Phe	Tyr	Leu	Leu	Ser	Ile	Ala	Ala	Val	Ala	Leu	Met	Phe	215	220	225
Met	Tyr	Tyr	Thr	Glu	Pro	Ser	Gly	Cys	His	Glu	Gly	Lys	Val	Phe	230	235	240
Ile	Ser	Leu	Asn	Leu	Thr	Phe	Cys	Val	Cys	Val	Ser	Ile	Ala	Ala	245	250	255
Val	Leu	Pro	Lys	Val	Gln	Asp	Ala	Gln	Pro	Asn	Ser	Gly	Leu	Leu	260	265	270
Gln	Ala	Ser	Val	Ile	Thr	Leu	Tyr	Thr	Met	Phe	Val	Thr	Trp	Ser	275	280	285
Ala	Leu	Ser	Ser	Ile	Pro	Glu	Gln	Lys	Cys	Asn	Pro	His	Leu	Pro	290	295	300
Thr	Gln	Leu	Gly	Asn	Glu	Thr	Val	Val	Ala	Gly	Pro	Glu	Gly	Tyr	305	310	315
Glu	Thr	Gln	Trp	Trp	Asp	Ala	Pro	Ser	Ile	Val	Gly	Leu	Ile	Ile	320	325	330
Phe	Leu	Leu	Cys	Thr	Leu	Phe	Ile	Ser	Leu	Arg	Ser	Ser	Asp	His	335	340	345
Arg	Gln	Val	Asn	Ser	Leu	Met	Gln	Thr	Glu	Glu	Cys	Pro	Pro	Met			

	350		355		360
Leu Asp Ala Thr	Gln Gln Gln Gln Gln	Gln Val Ala Ala Cys	Glu		
	365		370		375
Gly Arg Ala Phe	Asp Asn Glu Gln Asp	Gly Val Thr Tyr Ser	Tyr		
	380		385		390
Ser Phe Phe His	Phe Cys Leu Val Leu	Ala Ser Leu His Val	Met		
	395		400		405
Met Thr Leu Thr	Asn Trp Tyr Lys Pro	Gly Glu Thr Arg Lys	Met		
	410		415		420
Ile Ser Thr Trp	Thr Ala Val Trp Val	Lys Ile Cys Ala Ser	Trp		
	425		430		435
Ala Gly Leu Leu	Leu Tyr Leu Trp Thr	Leu Val Ala Pro Leu	Leu		
	440		445		450
Leu Arg Asn Arg	Asp Phe Ser				
	455				

<210> 20
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 20
 gccgcctcat cttcacgttc ttcc 24

 <210> 21
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 21
 tcatccagct ggtgctgctc 20

 <210> 22
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 22
 cttcttccac ttctgcctgg 20

 <210> 23
 <211> 18

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 23
cctgggcaaa aatgcaac 18

<210> 24
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 24
caggaatgta gaaggcaccc acgg 24

<210> 25
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 25
tggcacagat cttcacccac acgg 24

<210> 26
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 26
tgtccatcat tatgctgagc ccgggcgtgg agagtcagct ctacaagctg 50

<210> 27
<211> 1351
<212> DNA
<213> Homo sapiens

<400> 27
gagcgaggcc ggggactgaa ggtgtgggtg tcgagccctc tggcagaggg 50
ttaacctggg tcaaatgcac ggattctcac ctggtacagt tacgctctcc 100
cgcggcacgt ccgcgaggac ttgaagtcct gagcgctcaa gtttgtccgt 150
aggtcgagag aaggccatgg aggtgccgcc accggcaccg cggagctttc 200
tctgtagagc attgtgccta tttccccgag tctttgctgc cgaagctgtg 250

actgccgatt cggaagtcct tgaggagcgt cagaagcggc ttccctacgt 300
 cccagagccc tattaccggy aatctggatg ggaccgcctc cgggagctgt 350
 ttggcaaaga tgaacagcag agaatttcaa aggaccttgc taatatctgt 400
 aagacggcag ctacagcagg catcattggc tgggtgtatg ggggaatacc 450
 agctttttatt catgctaaac aacaatacat tgagcagagc caggcagaaa 500
 tttatcataa ccggtttgat gctgtgcaat ctgcacatcg tgctgccaca 550
 cgaggcttca ttcgttatgg ctggcgctgg ggttgagaaa ctgcagtgtt 600
 tgtgactata ttcaacacag tgaacactag tctgaatgta taccgaaata 650
 aagatgcctt aagccatttt gtaattgcag gagctgtcac gggaagtctt 700
 tttaggataa acgtaggcct gcgtggcctg gtggctggtg gcataattgg 750
 agccttgctg ggcactcctg taggaggcct gctgatggca tttcagaagt 800
 acgctgggtga gactgttcag gaaagaaaac agaaggatcg aaaggcactc 850
 catgagctaa aactggaaga gtggaaaggc agactacaag ttactgagca 900
 cctccctgag aaaattgaaa gtagtttacg ggaagatgaa cctgagaatg 950
 atgctaagaa aattgaagca ctgctaaacc ttcctagaaa cccttcagta 1000
 atagataaac aagacaagga ctgaaagtgc tctgaacttg aaactcactg 1050
 gagagctgaa gggagctgcc atgtccgatg aatgccaaca gacaggccac 1100
 tctttgggtca gcctgctgac aaatttaagt gctggtacct gtggtggcag 1150
 tggcttgctc ttgtcttttt cttttctttt taactaagaa tggggctgtt 1200
 gtactctcac ttactttatc cttaaattta aatacatact tatgtttgta 1250
 ttaatctatc aatatatgca tacatggata tatccaccca cctagatttt 1300
 aagcagtaaa taaaacattt cgcaaaagat taaagttgaa ttttacagtt 1350
 t 1351

<210> 28

<211> 285

<212> PRT

<213> Homo sapiens

<400> 28

Met	Glu	Val	Pro	Pro	Pro	Ala	Pro	Arg	Ser	Phe	Leu	Cys	Arg	Ala
1				5					10					15

Leu	Cys	Leu	Phe	Pro	Arg	Val	Phe	Ala	Ala	Glu	Ala	Val	Thr	Ala
				20				25						30

ctattaccg gaatctggat gggaccgctc cgggagctgt ttggcaaaga 100
 tgaacagcag agaatttcaa aggaccttgc taatatctgt aagacggcag 150
 ctacagcagg catcattggc tgggtgtatg ggggaatacc agcttttatt 200
 catgctaaac aacaatacat tgagcagagc caggcagaaa tttatcataa 250
 ccggtttgat gctgtgcaat ctgcacatcg tgctgccaca cgaggcttca 300
 ttcgttcattg gctggcgccg aacc 324

<210> 30
 <211> 377
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 262, 330, 371
 <223> unknown base

<400> 30
 tcaagtttgt ccgtaggtcg agagaaggcc atggaggtgc cgccaccggc 50
 accgcggagc ttttttctgt agagcattgt gcctatttcc ccgagttttt 100
 gctgccgaag ctgtgactgc cgattcggaa gtccttgagg agcgtcagaa 150
 gcggcttccc tacgtcccag agccctatta cccggaattt ggatgggacc 200
 gcctccggga gctgtttggc aaagatgaac agcagagaat ttcaaaggac 250
 cttgctgata tntgtaagac ggcagctaca gcaggcatca ttggctgggt 300
 gtatggggga ataccagctt ttattcatgn taaacaacaa tacattgagc 350
 agagccaggc agaaatttat nataacc 377

<210> 31
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 31
 tcgtacagtt acgctctccc 20

<210> 32
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 32
cttgaggagc gtcagaagcg 20

<210> 33
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 33
ataacgaatg aagcctcgtg 20

<210> 34
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 34
gctaatatct gtaagacggc agctacagca ggcattcattg 40

<210> 35
<211> 1819
<212> DNA
<213> Homo sapiens

<400> 35
gagccgcccgc cgcgcgcgcg cgcgcgactg cagccccagg ccccgggccc 50
ccaccacagt ctgcgttget gccccgcctg ggccaggccc caaaggcaag 100
gacaaagcag ctgtcagga acctccgccg gagtccaatt tacgtgcagc 150
tgccggcaac cacaggttcc aagatggttt gcgggggctt cgcgtgttcc 200
aagaactgcc tgtgcgccct caacctgctt tacaccttgg ttagtctgct 250
gctaattgga attgctgcgt ggggcattgg cttcgggctg atttccagtc 300
tccgagtggc cggcgtggtc attgcagtgg gcatcttctt gttcctgatt 350
gctttagtgg gtctgattgg agctgtaaaa catcatcagg tgttgctatt 400
tttttatatg attattctgt tacttgtatt tattgttcag ttttctgtat 450
cttgcgcttg tttagccctg aaccaggagc aacagggcca gcttctggag 500
gttggttgga acaatacggc aagtgcctga aatgacatcc agagaaatct 550
aaactgctgt gggttccgaa gtgttaaccc aaatgacacc tgtctggcta 600
gctgtgttaa aagtgaccac tcgtgctcgc catgtgctcc aatcatagga 650
gaatatgctg gagaggtttt gagatttggt ggtggcattg gcctgttctt 700

cagttttaca gagatcctgg gtgtttggct gacctacaga tacaggaacc 750
 agaaagaccc ccgcgcgaat cctagtgcac tcctttgatg agaaaacaag 800
 gaagatttcc tttcgtatta tgatcttggt cactttctgt aattttctgt 850
 taagctccat ttgccagttt aaggaaggaa acactatctg gaaaagtacc 900
 ttattgatag tggaattata tatttttact ctatgtttct ctacatgttt 950
 ttttctttcc gttgctgaaa aatatttgaa acttggtggtc tctgaagctc 1000
 ggtggcacct ggaatttact gtattcattg tcgggcactg tccactgtgg 1050
 cctttcttag catTTTTtacc tgcagaaaaa ctttgtatgg taccactgtg 1100
 ttggttatat ggtgaatctg aacgtacatc tcaactggtat aattatatgt 1150
 agcactgtgc tgtgtagata gttcctactg gaaaaagagt ggaaatttat 1200
 taaaatcaga aagtatgaga tcctgttatg ttaagggaaa tccaaattcc 1250
 caattttttt tgggtcttttt aggaaagatt gttgtggtaa aaagtgttag 1300
 tataaaaatg ataatttact tgtagtcttt tatgattaca ccaatgtatt 1350
 ctagaaatag ttatgtctta ggaaattgtg gtttaatttt tgactttttac 1400
 aggtaagtgc aaaggagaag tggtttcatg aaatgttcta atgtataata 1450
 acatttacct tcagcctcca tcagaatgga acgagttttg agtaatcagg 1500
 aagtatatct atatgatctt gatattgttt tataataatt tgaagtctaa 1550
 aagactgcat ttttaaacia gttagtatta atgcgttggc ccacgtagca 1600
 aaaagatatt tgattatctt aaaaattgtt aaataccgtt ttcatgaaat 1650
 ttctcagtat tgtaacagca acttgtcaaa cctaagcata tttgaatatg 1700
 atctcccata atttgaaatt gaaatcgtat tgtgtgggtc tgtatattct 1750
 gttaaaaaat taaaggacag aaacctttct ttgtgtatgc atgtttgaat 1800
 taaaagaaag taatggaag 1819

<210> 36

<211> 204

<212> PRT

<213> Homo sapiens

<400> 36

Met	Val	Cys	Gly	Gly	Phe	Ala	Cys	Ser	Lys	Asn	Cys	Leu	Cys	Ala
1				5					10					15

Leu	Asn	Leu	Leu	Tyr	Thr	Leu	Val	Ser	Leu	Leu	Leu	Ile	Gly	Ile
				20					25					30

gagggttttga gatttggttg tggcattggc ctgttnttca gttttacaga 350

gacctgggt gtttggtga cctacagata caggaaccag 390

<210> 38

<211> 566

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 27

<223> unknown base

<400> 38

aatcccaaatt tcccaaattt ttttggnott tttagggaaa gatgtgttgt 50

ggtaaaaagt gttagtataa aaatgataat ttactttagt tcttttatga 100

ttacaccaat gtattctaga atagttagt cttaggaaat tgtggtttta 150

tttttgactt ttacaggtaa gtgcaaagga gaagtgggtt catgaaatgt 200

tctaattgtat aataacattt accttcagcc tcccatcaga atggaacgag 250

ttttgagtaa tccaggaagt atatctatat gatcttgata ttgttttata 300

taatttgaag tctaaaagac tgcattttta aacaagttag tattaatgag 350

ttggcccacg tagcaaaaag atatttgatt atcttaaaaa ttgttaaata 400

cgttttcat gaaagttctc agtattgtaa cagcaacttg tcaaacctaa 450

gcatatttga atatgatctc ccataatttg aaattgaaat cgtatttgtgt 500

ggaggaaatg gcaatcttat gtgtgctgaa ggacacagta agagcaccaa 550

gttgtgcccc acttgc 566

<210> 39

<211> 264

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 84-85, 206

<223> unknown base

<400> 39

atgattattc tgttacttgt atttattgtt cagttttatg gtatcttgag 50

cttgtttagc ccctgaaacc aggagcaaca gggnnacagc tcttgagggt 100

tggttgcaa caatcacggc caagtgactc cgcaaagac atcccagaga 150

aatcctaaac tgctgtgggt tccgaagtgt taaccctaat gacacctgtc 200

tggctngctg tggtaaaagt gaccactcgt gctcgccatg tgctccaatc 250
 ataggagaat atgc 264
 <210> 40
 <211> 21
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic oligonucleotide probe
 <400> 40
 acccacgtct gcgttgctgc c 21
 <210> 41
 <211> 18
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic oligonucleotide probe
 <400> 41
 gagaatatgc tggagagg 18
 <210> 42
 <211> 24
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic oligonucleotide probe
 <400> 42
 aggaatgcac taggattcgc gcgg 24
 <210> 43
 <211> 45
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic oligonucleotide probe
 <400> 43
 ggccccaaag gcaaggacaa agcagctgtc agggaacctc cgccg 45
 <210> 44
 <211> 2061
 <212> DNA
 <213> Homo sapiens
 <400> 44
 cagtcacat gaagctgggc tgtgtcctca tggcctgggc cctctacctt 50
 tcccttggtg tgctctgggt ggcccagatg ctactggctg ccagttttga 100

gacgctgcag tgtgagggac ctgtctgcac tgaggagagc agctgccaca 150
 cggaggatga cttgactgat gcaaggggaag ctggcttcca ggtcaaggcc 200
 tacactttca gtgaaccctt ccacctgatt gtgtcctatg actggctgat 250
 cctccaaggt ccagccaagc cagtttttga aggggacctg ctggttctgc 300
 gctgccaggc ctggcaagac tggccactga ctcaggtagc cttctaccga 350
 gatggctcag ctctgggtcc ccccgggcct aacagggaat tctccatcac 400
 cgtggtacaa aaggcagaca gggggcacta ccactgcagt ggcatcttcc 450
 agagccctgg tcttgggata ccagaaacag catctgttgt ggctatcaca 500
 gtccaagaac tgtttccagc gccaatctc agagctgtac ctcagctga 550
 accccaagca ggaagcccca tgaccctgag ttgtcagaca aagttgcccc 600
 tgcagaggtc agctgcccgc ctctcttct cttctacaa ggatggaagg 650
 atagtgcata gcagggggct ctctcagaa ttccagatcc ccacagcttc 700
 agaagatcac tccgggtcat actggtgtga ggcagccact gaggacaacc 750
 aagtttgaa acagagcccc cagctagaga tcagagtga ggtgcttcc 800
 agctctgctg cacctccac attgaatcca gctctcaga aatcagctgc 850
 tccaggaact gctctgagg agggccctgg gcctctgcct ccgccgcaa 900
 ccccatcttc tgaggatcca ggcttttct ctctctggg gatgccagat 950
 cctcatctgt atcaccagat gggccttct ctcaaacaca tgcaggatgt 1000
 gagagtctc ctgggtcacc tgctcatgga gttgagggaa ttatctggcc 1050
 accagaagcc tgggaccaca aaggctactg ctgaatagaa gtaaacagtt 1100
 catccatgat ctacttaac caccacaata aatctgattc tttattttct 1150
 cttctgtcc tgcacatat cataagtact ttacaagtt gtcccagtgt 1200
 tttgttagaa taatgtagtt aggtgagtgt aaataaattt atataaagt 1250
 agaattagag tttagctata attgtgtatt ctctctaac acaacagaat 1300
 tctgctgtct agatcaggaa tttctatctg ttatatcgac cagaatgttg 1350
 tgatttaaag agaactaat gaagtggatt gaatacagca gtctcaactg 1400
 ggggcaattt tgccccccag aggacattgg gcaatgtttg gagacatttt 1450
 ggtcattata cttgggggtg tgggggatgg tgggatgtgt gtctactggc 1500
 atccagtaaa tagaagccag ggtgcccgt aaacatcta taatgcacag 1550

ggtagtacct cacaacgaaa aataatctgg cccaaaatgt cagttgtact 1600
 gagtttgaga aaccccagcc taatgaaacc ctaggtgttg ggctctggaa 1650
 tgggactttg tcccttctaa ttattatctc tttccagcct cattcagcta 1700
 ttcttactga cataccagtc tttagctggg gctatgggtct gttctttagt 1750
 tctagtttgt atccccctcaa aagccattat gttgaaatcc taatccccaa 1800
 ggtgatggca ttaagaagtg ggcctttggg aagtgattag atcaggagtg 1850
 cagagccctc atgattagga ttagtgcctt tatttaaaaa ggccccagag 1900
 agctaactca cccttccacc atatgaggac gtggcaagaa gatgacatgt 1950
 atgagaacca aaaaacagct gtcgccaac accgactctg tcgttgccct 2000
 gatcttgaac ttccagcctc cagaactatg agaaataaaa ttctggttgt 2050
 ttgtagccta a 2061

<210> 45
 <211> 359
 <212> PRT
 <213> Homo sapiens

<400> 45

Met Lys Leu Gly Cys Val Leu Met Ala Trp Ala Leu Tyr Leu Ser
 1 5 10 15

Leu Gly Val Leu Trp Val Ala Gln Met Leu Leu Ala Ala Ser Phe
 20 25 30

Glu Thr Leu Gln Cys Glu Gly Pro Val Cys Thr Glu Glu Ser Ser
 35 40 45

Cys His Thr Glu Asp Asp Leu Thr Asp Ala Arg Glu Ala Gly Phe
 50 55 60

Gln Val Lys Ala Tyr Thr Phe Ser Glu Pro Phe His Leu Ile Val
 65 70 75

Ser Tyr Asp Trp Leu Ile Leu Gln Gly Pro Ala Lys Pro Val Phe
 80 85 90

Glu Gly Asp Leu Leu Val Leu Arg Cys Gln Ala Trp Gln Asp Trp
 95 100 105

Pro Leu Thr Gln Val Thr Phe Tyr Arg Asp Gly Ser Ala Leu Gly
 110 115 120

Pro Pro Gly Pro Asn Arg Glu Phe Ser Ile Thr Val Val Gln Lys
 125 130 135

Ala Asp Ser Gly His Tyr His Cys Ser Gly Ile Phe Gln Ser Pro
 140 145 150

Gly	Pro	Gly	Ile	Pro	Glu	Thr	Ala	Ser	Val	Val	Ala	Ile	Thr	Val	155	160	165
Gln	Glu	Leu	Phe	Pro	Ala	Pro	Ile	Leu	Arg	Ala	Val	Pro	Ser	Ala	170	175	180
Glu	Pro	Gln	Ala	Gly	Ser	Pro	Met	Thr	Leu	Ser	Cys	Gln	Thr	Lys	185	190	195
Leu	Pro	Leu	Gln	Arg	Ser	Ala	Ala	Arg	Leu	Leu	Phe	Ser	Phe	Tyr	200	205	210
Lys	Asp	Gly	Arg	Ile	Val	Gln	Ser	Arg	Gly	Leu	Ser	Ser	Glu	Phe	215	220	225
Gln	Ile	Pro	Thr	Ala	Ser	Glu	Asp	His	Ser	Gly	Ser	Tyr	Trp	Cys	230	235	240
Glu	Ala	Ala	Thr	Glu	Asp	Asn	Gln	Val	Trp	Lys	Gln	Ser	Pro	Gln	245	250	255
Leu	Glu	Ile	Arg	Val	Gln	Gly	Ala	Ser	Ser	Ser	Ala	Ala	Pro	Pro	260	265	270
Thr	Leu	Asn	Pro	Ala	Pro	Gln	Lys	Ser	Ala	Ala	Pro	Gly	Thr	Ala	275	280	285
Pro	Glu	Glu	Ala	Pro	Gly	Pro	Leu	Pro	Pro	Pro	Pro	Thr	Pro	Ser	290	295	300
Ser	Glu	Asp	Pro	Gly	Phe	Ser	Ser	Pro	Leu	Gly	Met	Pro	Asp	Pro	305	310	315
His	Leu	Tyr	His	Gln	Met	Gly	Leu	Leu	Leu	Lys	His	Met	Gln	Asp	320	325	330
Val	Arg	Val	Leu	Leu	Gly	His	Leu	Leu	Met	Glu	Leu	Arg	Glu	Leu	335	340	345
Ser	Gly	His	Gln	Lys	Pro	Gly	Thr	Thr	Lys	Ala	Thr	Ala	Glu		350	355	

<210> 46

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 46

tgggctgtgt cctcatgg 18

<210> 47

<211> 18

<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 47
tttccagcgc caattctc 18

<210> 48
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 48
agttcttgga ctgtgatagc cac 23

<210> 49
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 49
aaacttggtt gtcctcagtg gctg 24

<210> 50
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 50
gtgagggacc tgtctgcact gaggagagca gtgccacac ggagg 45

<210> 51
<211> 2181
<212> DNA
<213> Homo sapiens

<400> 51
cccacgcgtc cgcccacgcg tccgcccacg ggtccgcca cgcgtccggg 50
ccaccagaag tttgagcctc tttggtagca ggaggctgga agaaaggaca 100
gaagtagctc tggctgtgat ggggatctta ctgggcctgc tactcctggg 150
gcacctaaca gtggacactt atggccgtcc catcctggaa gtgccagaga 200
gtgtaacagg accttggaag ggggatgtga atcttccctg cacctatgac 250
cccctgcaag gctacacca agtcttggtg aagtggctgg tacaacgtgg 300
ctcagaccct gtcaccatct ttctacgtga ctcttctgga gaccatatcc 350

agcaggcaaa gtaccagggc cgcctgcatg tgagccacaa ggttccagga 400
 gatgtatccc tccaattgag caccctggag atggatgacc ggagccacta 450
 cacgtgtgaa gtcacctggc agactcctga tggcaaccaa gtcgtgagag 500
 ataagattac tgagctccgt gtccagaaac tctctgtctc caagcccaca 550
 gtgacaactg gcagcgggta tggcttcacg gtgccccagg gaatgaggat 600
 tagccttcaa tgccaggctc ggggttctcc tcccatcagt tatatttggt 650
 ataagcaaca gactaataac caggaacca tcaaagtagc aaccctaagt 700
 accttactct tcaagcctgc ggtgatagcc gactcaggct cctatttctg 750
 cactgccaag ggccagggtg gctctgagca gcacagcgac attgtgaagt 800
 ttgtggtcaa agactcctca aagctactca agaccaagac tgaggcacct 850
 acaaccatga catacccctt gaaagcaaca tctacagtga agcagtcctg 900
 ggactggacc actgacatgg atggctacct tggagagacc agtgcagggc 950
 caggaaagag cctgcctgtc tttgccatca tctcatcat ctccttgtgc 1000
 tgtatggtgg tttttacat ggcctatata atgctctgtc ggaagacatc 1050
 ccaacaagag catgtctacg aagcagccag gtaagaaagt ctctcctctt 1100
 ccatttttga ccccgccct gccctcaatt ttgattactg gcaggaaatg 1150
 tggaggaagg ggggtgtggc acagacccaa tcctaaggcc ggaggccttc 1200
 agggtcagga catagctgcc ttccctctct caggcacctt ctgagggttg 1250
 tttggccctc tgaacacaaa ggataattta gatccatctg ccttctgctt 1300
 ccagaatccc tgggtggtag gatcctgata attaattggc aagaattgag 1350
 gcagaagggt gggaaaccag gaccacagcc ccaagtccct tcttatgggt 1400
 ggtgggctct tgggcatag ggcacatgcc agagaggcca acgactctgg 1450
 agaaaccatg aggggtggcca tcttcgcaag tggctgctcc agtgatgagc 1500
 caacttcca gaatctgggc aacaactact ctgatgagcc ctgcatagga 1550
 caggagtacc agatcatcgc ccagatcaat ggcaactacg cccgcctgct 1600
 ggacacagtt cctctggatt atgagtttct ggccactgag ggcaaaagt 1650
 tctgttaaaa atgccccatt aggccaggat ctgctgacat aattgcctag 1700
 tcagtccttg ccttctgcat ggccttcttc cctgctacct ctcttctgg 1750
 atagcccaaa gtgtccgcct accaactctg gagccgctgg gagtcactgg 1800

ctttgccttg gaatttgcca gatgcatctc aagtaagcca gctgctggat 1850
 ttggctcttg gcccttctag tatctctgcc gggggcttct ggtactcctc 1900
 tctaaatacc agaggggaaga tgcccatagc actaggactt ggtcatcatg 1950
 cctacagaca ctattcaact ttggcatctt gccaccagaa gacccgaggg 2000
 aggctcagct ctgccagctc agaggaccag ctatatccag gatcatttct 2050
 ctttcttcag ggccagacag cttttaattg aaattgttat ttcacaggcc 2100
 agggttcagt tctgctcctc cactataagt ctaatgttct gactctctcc 2150
 tgggtgctcaa taaatatcta atcataacag c 2181

<210> 52
 <211> 321
 <212> PRT
 <213> Homo sapiens

<400> 52

Met	Gly	Ile	Leu	Leu	Gly	Leu	Leu	Leu	Leu	Gly	His	Leu	Thr	Val	1	5	10	15
Asp	Thr	Tyr	Gly	Arg	Pro	Ile	Leu	Glu	Val	Pro	Glu	Ser	Val	Thr	20	25	30	
Gly	Pro	Trp	Lys	Gly	Asp	Val	Asn	Leu	Pro	Cys	Thr	Tyr	Asp	Pro	35	40	45	
Leu	Gln	Gly	Tyr	Thr	Gln	Val	Leu	Val	Lys	Trp	Ile	Val	Gln	Arg	50	55	60	
Gly	Ser	Asp	Pro	Val	Thr	Ile	Phe	Leu	Arg	Asp	Ser	Ser	Gly	Asp	65	70	75	
His	Ile	Gln	Gln	Ala	Lys	Tyr	Gln	Gly	Arg	Leu	His	Val	Ser	His	80	85	90	
Lys	Val	Pro	Gly	Asp	Val	Ser	Leu	Gln	Leu	Ser	Thr	Leu	Glu	Met	95	100	105	
Asp	Asp	Arg	Ser	His	Tyr	Thr	Cys	Glu	Val	Thr	Trp	Gln	Thr	Pro	110	115	120	
Asp	Gly	Asn	Gln	Val	Val	Arg	Asp	Lys	Ile	Thr	Glu	Leu	Arg	Val	125	130	135	
Gln	Lys	Leu	Ser	Val	Ser	Lys	Pro	Thr	Val	Thr	Thr	Gly	Ser	Gly	140	145	150	
Tyr	Gly	Phe	Thr	Val	Pro	Gln	Gly	Met	Arg	Ile	Ser	Leu	Gln	Cys	155	160	165	
Gln	Ala	Arg	Gly	Ser	Pro	Pro	Ile	Ser	Tyr	Ile	Trp	Tyr	Lys	Gln	170	175	180	

Gln	Thr	Asn	Asn	Gln	Glu	Pro	Ile	Lys	Val	Ala	Thr	Leu	Ser	Thr	185	190	195
Leu	Leu	Phe	Lys	Pro	Ala	Val	Ile	Ala	Asp	Ser	Gly	Ser	Tyr	Phe	200	205	210
Cys	Thr	Ala	Lys	Gly	Gln	Val	Gly	Ser	Glu	Gln	His	Ser	Asp	Ile	215	220	225
Val	Lys	Phe	Val	Val	Lys	Asp	Ser	Ser	Lys	Leu	Leu	Lys	Thr	Lys	230	235	240
Thr	Glu	Ala	Pro	Thr	Thr	Met	Thr	Tyr	Pro	Leu	Lys	Ala	Thr	Ser	245	250	255
Thr	Val	Lys	Gln	Ser	Trp	Asp	Trp	Thr	Thr	Asp	Met	Asp	Gly	Tyr	260	265	270
Leu	Gly	Glu	Thr	Ser	Ala	Gly	Pro	Gly	Lys	Ser	Leu	Pro	Val	Phe	275	280	285
Ala	Ile	Ile	Leu	Ile	Ile	Ser	Leu	Cys	Cys	Met	Val	Val	Phe	Thr	290	295	300
Met	Ala	Tyr	Ile	Met	Leu	Cys	Arg	Lys	Thr	Ser	Gln	Gln	Glu	His	305	310	315
Val	Tyr	Glu	Ala	Ala	Arg										320		

<210> 53
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 53
 tatccctcca attgagcacc ctgg 24

<210> 54
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 54
 gtcggaagac atcccaacaa g 21

<210> 55
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 55

cttcacaatg tcgctgtgct gctc 24

<210> 56

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 56

agccaaatcc agcagctggc ttac 24

<210> 57

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 57

tggatgaccg gagccactac acgtgtgaag tcacctggca gactcctgat 50

<210> 58

<211> 2458

<212> DNA

<213> Homo sapiens

<400> 58

gcgccggggag cccatctgcc cccaggggca cggggcgcg ggcgggtcc 50

cgcccggcac atggctgcag ccacctcgcg cgcaccccga ggcggcgcg 100

ccagctcgcc cgaggtccgt cggaggcgcc cggccgcccc ggagccaagc 150

agcaactgag cggggaagcg cccgcgtccg gggatcggga tgtccctcct 200

ccttctcctc ttgctagttt cctactatgt tggaaccttg gggactcaca 250

ctgagatcaa gagagtggca gaggaaaagg tcactttgcc ctgccaccat 300

caactggggc ttccagaaaa agacactctg gatattgaat ggctgctcac 350

cgataatgaa gggaaccaa aagtgtgat cacttactcc agtcgtcatg 400

tctacaataa cttgactgag gaacagaagg gccgagtggc ctttgcttcc 450

aatttccttg caggagatgc ctccttgag attgaacctc tgaagcccag 500

tgatgagggc cggtaacact gtaaggttaa gaattcaggg cgctacgtgt 550

ggagccatgt catcttaaaa gtcttagtga gaccatcaa gcccagtggt 600

gagttggaag gagagctgac agaaggaagt gacctgactt tgcagtgtga 650

gtcatcctct ggcacagagc ccattgtgta ttactggcag cgaatccgag 700
 agaaagaggg agaggatgaa cgtctgcctc ccaaacttag gattgactac 750
 aaccaccctg gacgagttct gctgcagaat cttaccatgt cctactctgg 800
 actgtaccag tgcacagcag gcaacgaagc tgggaaggaa agctgtgtgg 850
 tgcgagtaac tgtacagtat gtacaaagca tcggcatggg tgcaggagca 900
 gtgacaggca tagtggtctg agccctgctg attttctct tgggtgtggct 950
 gctaataccg aggaagaca aagaagata tgaggaagaa gagagaccta 1000
 atgaaattcg agaagatgct gaagctccaa aagcccgtct tgtgaaaccc 1050
 agctcctctt cctcaggctc tcggagctca cgctctgggt cttcctccac 1100
 tcgctccaca gcaaatagtg cctcacgcag ccagcggaca ctgtcaactg 1150
 acgcagcacc ccagccaggg ctggccaccc aggcatacag cctagtgggg 1200
 ccagaggtga gaggttctga accaaagaaa gtccaccatg ctaatctgac 1250
 caaagcagaa accacaccca gcatgatccc cagccagagc agagccttcc 1300
 aaacggtctg aattacaatg gacttgactc ccacgctttc ctaggagtca 1350
 ggggtctttg actcttctcg tcattggagc tcaagtcacc agccacacaa 1400
 ccagatgaga ggtcatctaa gtagcagtga gcattgcacg gaacagattc 1450
 agatgagcat tttccttata caataccaaa caagcaaaag gatgtaagct 1500
 gattcatctg taaaaaggca tcttattgtg ctttagacc agagtaaggg 1550
 aaagcaggag tccaaatcta tttgttgacc aggacctgtg gtgagaaggt 1600
 tggggaaagg tgaggatgaat atacctaaaa cttttaatgt gggatatttt 1650
 gtatcagtg cttgattcac aattttcaag aggaaatggg atgctgtttg 1700
 taaattttct atgcatttct gcaaacttat tggattatta gttattcaga 1750
 cagtcaagca gaaccacag ccttattaca cctgtctaca ccatgtactg 1800
 agctaaccac ttctaagaaa ctccaaaaaa ggaaacatgt gtcttctatt 1850
 ctgacttaac ttcatctgtc ataaggtttg gatattaatt tcaaggggag 1900
 ttgaaatagt gggagatgga gaagagtga tgagtttctc ccactctata 1950
 ctaatctcac tatttgtatt gagcccaaaa taactatgaa aggagacaaa 2000
 aatttgtgac aaaggattgt gaagagcttt ccatcttcat gatgttatga 2050
 ggattgttga caaacattag aaatatataa tggagcaatt gtggatttcc 2100

cctcaaataca gatgcctcta aggactttcc tgctagatat ttctggaagg 2150
 agaaaataca acatgtcatt tatcaacgtc cttagaaaga attcttctag 2200
 agaaaaaggg atctaggaat gctgaaagat tacccaacat accattatag 2250
 tctcttcttt ctgagaaaat gtgaaaccag aattgcaaga ctgggtggac 2300
 tagaaagggg gattagatca gttttctctt aatatgtcaa ggaaggtagc 2350
 cgggcatggg gccaggcacc tgtaggaaaa tccagcaggt ggaggttgca 2400
 gtgagccgag attatgccat tgcactccag cctgggtgac agagcgggac 2450
 tccgtctc 2458

<210> 59
 <211> 373
 <212> PRT
 <213> Homo sapiens

<400> 59

Met	Ser	Leu	Leu	Leu	Leu	Leu	Leu	Leu	Val	Ser	Tyr	Tyr	Val	Gly
1				5					10					15
Thr	Leu	Gly	Thr	His	Thr	Glu	Ile	Lys	Arg	Val	Ala	Glu	Glu	Lys
				20					25					30
Val	Thr	Leu	Pro	Cys	His	His	Gln	Leu	Gly	Leu	Pro	Glu	Lys	Asp
				35					40					45
Thr	Leu	Asp	Ile	Glu	Trp	Leu	Leu	Thr	Asp	Asn	Glu	Gly	Asn	Gln
				50					55					60
Lys	Val	Val	Ile	Thr	Tyr	Ser	Ser	Arg	His	Val	Tyr	Asn	Asn	Leu
				65					70					75
Thr	Glu	Glu	Gln	Lys	Gly	Arg	Val	Ala	Phe	Ala	Ser	Asn	Phe	Leu
				80					85					90
Ala	Gly	Asp	Ala	Ser	Leu	Gln	Ile	Glu	Pro	Leu	Lys	Pro	Ser	Asp
				95					100					105
Glu	Gly	Arg	Tyr	Thr	Cys	Lys	Val	Lys	Asn	Ser	Gly	Arg	Tyr	Val
				110					115					120
Trp	Ser	His	Val	Ile	Leu	Lys	Val	Leu	Val	Arg	Pro	Ser	Lys	Pro
				125					130					135
Lys	Cys	Glu	Leu	Glu	Gly	Glu	Leu	Thr	Glu	Gly	Ser	Asp	Leu	Thr
				140					145					150
Leu	Gln	Cys	Glu	Ser	Ser	Ser	Gly	Thr	Glu	Pro	Ile	Val	Tyr	Tyr
				155					160					165
Trp	Gln	Arg	Ile	Arg	Glu	Lys	Glu	Gly	Glu	Asp	Glu	Arg	Leu	Pro
				170					175					180

<400> 61
actaggctgt atgcctgggt gggc 24

<210> 62

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 62

gtatgtacaa agcatcggca tggttgcagg agcagtgaca ggc 43

<210> 63

<211> 3534

<212> DNA

<213> Homo sapiens

<400> 63

gtcgttcctt tgctctctcg cgcccagtc tctctcctgg ttctcctcag 50
ccgctgtcgg aggagagcac ccggagacgc gggctgcagt cgcggcggct 100
tctccccgcc tgggcggcct cgccgctggg cagggtgctga gcgcccctag 150
agcctccctt gccgcctccc tctctgccc ggccgcagca gtgcacatgg 200
ggtggttgag gtagatgggc tccgggccc ggaggcggcg gtggatgcgg 250
cgctgggcag aagcagccgc cgattccagc tgccccgcgc gccccgggcg 300
ccccctgcag tccccgggtc agccatgggg acctctccga gcagcagcac 350
cgccctcgcc tctgcagcc gcctgcgcc ccgagccaca gccacgatga 400
tcgcgggctc ccttctcctg cttggattcc ttagcaccac cacagctcag 450
ccagaacaga aggcctcgaa tctcattggc acataccgcc atgttgaccg 500
tgccaccggc cagggtgctaa cctgtgacaa gtgtccagca ggaacctatg 550
tctctgagca ttgtaccaac acaagcctgc gcgtctgcag cagttgccct 600
gtggggacct ttaccaggca tgagaatggc atagagaaat gccatgactg 650
tagtcagcca tgcccatggc caatgattga gaaattacct tgtgctgcct 700
tgactgaccg agaatgcact tgcccacctg gcatgttcca gtctaacgct 750
acctgtgccc ccatacggg gtgtcctgtg ggttggggtg tgcggaagaa 800
agggacagag actgaggatg tgcgggtgtaa gcagtgtgct cgggggtacct 850
tctcagatgt gccttctagt gtgatgaaat gcaaagcata cacagactgt 900
ctgagtcaga acctgggtgg gatcaagccg gggaccaagg agacagacaa 950

cgtctgtggc acactcccgt ccttctccag ctccacctca ccttcccctg 1000
 gcacagccat ctttccacgc cctgagcaca tggaaacca tgaagtcctt 1050
 tcctccactt atgttcccaa aggcataaac tcaacagaat ccaactcttc 1100
 tgcctctgtt agaccaaagg tactgagtag catccaggaa gggacagtcc 1150
 ctgacaacac aagctcagca agggggaagg aagacgtgaa caagaccctc 1200
 ccaaaccctc aggtagtcaa ccaccagcaa ggcccccaac acagacacat 1250
 cctgaagctg ctgccgtcca tggaggccac tgggggagag aagtcagca 1300
 cgcccatcaa gggcccaaag aggggacatc ctagacagaa cctacacaag 1350
 cattttgaca tcaatgagca tttgccctgg atgattgtgc ttttctgct 1400
 gctggtgctt gtggtgattg tgggtgtgag tatccggaaa agctcgagga 1450
 ctctgaaaaa ggggccccgg caggatccca gtgccattgt ggaaaaggca 1500
 gggctgaaga aatccatgac tccaaccag aaccgggaga aatggatcta 1550
 ctactgcaat ggccatggta tcgatatact gaagcttgta gcagcccaag 1600
 tgggaagcca gtgaaagat atctatcagt ttctttgcaa tgccagttag 1650
 agggaggttg ctgctttctc caatgggtac acagccgacc acgagcgggc 1700
 ctacgcagct ctgcagcact ggaccatccg gggccccgag gccagcctcg 1750
 cccagctaata tagcgccctg cgccagcacc ggagaaacga tgttgaggag 1800
 aagattcgtg ggctgatgga agacaccacc cagctggaaa ctgacaaact 1850
 agctctcccg atgagcccca gcccgcttag cccgagcccc atccccagcc 1900
 ccaacgcgaa acttgagaat tccgctctcc tgacgggtgga gccttcccc 1950
 caggacaaga acaagggtt ctctgtggat gagtgcggag cccttctccg 2000
 ctgtgactct acatccagcg gctcctccgc gctgagcagg aacggttcct 2050
 ttattaccaaa agaaaagaag gacacagtgt tgcggcaggt acgcctggac 2100
 cctgtgact tgcagcctat ctttgatgac atgctccact ttctaaatcc 2150
 tgaggagctg cgggtgattg aagagattcc ccaggctgag gacaaactag 2200
 accggctatt cgaaattatt ggagtcaaga gccaggaagc cagccagacc 2250
 ctctggact ctgtttatag ccatcttcct gacctgctgt agaacatagg 2300
 gatactgcat tctggaaatt actcaattta gtggcagggt ggttttttaa 2350
 ttttctctg tttctgattt ttgtgtttg ggggtgtgtg gtgtgtttgt 2400

gtgtgtgtgt gtgtgtgtgt gtgtgtgtgt gtttaacaga gaatatggcc 2450
 agtgcttgag ttctttctcc ttctctctct ctcttttttt tttaaataac 2500
 tcttctggga agttgggtta taagcctttg ccagggtgaa ctgttgtaaa 2550
 ataccacca ctaaagtttt ttaagttcca tttttctcc attttgcctt 2600
 cttatgtatt ttcaagatta ttctgtgcac tttaaattta ctttaacttac 2650
 cataaatgca gtgtgacttt tcccacacac tggattgtga ggctcttaac 2700
 ttcttaaaag tataatggca tcttgtgaat cctataagca gtctttatgt 2750
 ctcttaacat tcacacctac tttttaaaaa caaatattat tactatTTTT 2800
 attattgttt gtcttttata aattttctta aagattaaga aaatttaaga 2850
 cccattgag ttactgtaat gcaattcaac ttgagttat cttttaaata 2900
 tgtcttgat agttcatatt catggctgaa acttgaccac actattgctg 2950
 attgtatggt ttccacctgg acaccgtgta gaatgcttga ttacttgtac 3000
 tcttcttatg ctaatatgct ctgggctgga gaaatgaaat cctcaagcca 3050
 tcaggatttg ctatttaagt ggcttgacaa ctgggccacc aaagaacttg 3100
 aacttcacct tttaggattt gagctgttct ggaacacatt gctgcacttt 3150
 ggaaagtcaa aatcaagtgc cagtggcgcc ctttccatag agaatttgcc 3200
 cagctttgct ttaaaagatg tcttgTTTT tatatacaca taatcaatag 3250
 gtccaatctg ctctcaaggc cttggctctg gtgggattcc ttcaccaatt 3300
 actttaatta aaaatggctg caactgtaag aacccttgct tgatatattt 3350
 gcaactatgc tcccatttac aaatgtacct tctaagtctc agttgccagg 3400
 ttccaatgca aagggtggcgt ggactccctt tgtgtgggtg gggtttgtgg 3450
 gtagtggtga aggaccgata tcagaaaaat gccttcaagt gtactaattt 3500
 attaataaac attaggtggt tgttaaaaaa aaaa 3534

<210> 64
 <211> 655
 <212> PRT
 <213> Homo sapiens

<400> 64
 Met Gly Thr Ser Pro Ser Ser Ser Thr Ala Leu Ala Ser Cys Ser
 1 5 10 15
 Arg Ile Ala Arg Arg Ala Thr Ala Thr Met Ile Ala Gly Ser Leu
 20 25 30

Leu Leu Leu Gly Phe Leu Ser Thr Thr Thr Ala Gln Pro Glu Gln
 35 40 45
 Lys Ala Ser Asn Leu Ile Gly Thr Tyr Arg His Val Asp Arg Ala
 50 55 60
 Thr Gly Gln Val Leu Thr Cys Asp Lys Cys Pro Ala Gly Thr Tyr
 65 70 75
 Val Ser Glu His Cys Thr Asn Thr Ser Leu Arg Val Cys Ser Ser
 80 85 90
 Cys Pro Val Gly Thr Phe Thr Arg His Glu Asn Gly Ile Glu Lys
 95 100 105
 Cys His Asp Cys Ser Gln Pro Cys Pro Trp Pro Met Ile Glu Lys
 110 115 120
 Leu Pro Cys Ala Ala Leu Thr Asp Arg Glu Cys Thr Cys Pro Pro
 125 130 135
 Gly Met Phe Gln Ser Asn Ala Thr Cys Ala Pro His Thr Val Cys
 140 145 150
 Pro Val Gly Trp Gly Val Arg Lys Lys Gly Thr Glu Thr Glu Asp
 155 160 165
 Val Arg Cys Lys Gln Cys Ala Arg Gly Thr Phe Ser Asp Val Pro
 170 175 180
 Ser Ser Val Met Lys Cys Lys Ala Tyr Thr Asp Cys Leu Ser Gln
 185 190 195
 Asn Leu Val Val Ile Lys Pro Gly Thr Lys Glu Thr Asp Asn Val
 200 205 210
 Cys Gly Thr Leu Pro Ser Phe Ser Ser Ser Thr Ser Pro Ser Pro
 215 220 225
 Gly Thr Ala Ile Phe Pro Arg Pro Glu His Met Glu Thr His Glu
 230 235 240
 Val Pro Ser Ser Thr Tyr Val Pro Lys Gly Met Asn Ser Thr Glu
 245 250 255
 Ser Asn Ser Ser Ala Ser Val Arg Pro Lys Val Leu Ser Ser Ile
 260 265 270
 Gln Glu Gly Thr Val Pro Asp Asn Thr Ser Ser Ala Arg Gly Lys
 275 280 285
 Glu Asp Val Asn Lys Thr Leu Pro Asn Leu Gln Val Val Asn His
 290 295 300
 Gln Gln Gly Pro His His Arg His Ile Leu Lys Leu Leu Pro Ser
 305 310 315
 Met Glu Ala Thr Gly Gly Glu Lys Ser Ser Thr Pro Ile Lys Gly

Pro Lys Arg Gly His	Pro Arg Gln Asn	Leu His Lys His Phe	Asp
335		340	345
Ile Asn Glu His	Leu Pro Trp Met Ile	Val Leu Phe Leu Leu	Leu
350		355	360
Val Leu Val Val	Ile Val Val Cys Ser	Ile Arg Lys Ser Ser	Arg
365		370	375
Thr Leu Lys Lys	Gly Pro Arg Gln Asp	Pro Ser Ala Ile Val	Glu
380		385	390
Lys Ala Gly Leu	Lys Lys Ser Met Thr	Pro Thr Gln Asn Arg	Glu
395		400	405
Lys Trp Ile Tyr	Tyr Cys Asn Gly His	Gly Ile Asp Ile Leu	Lys
410		415	420
Leu Val Ala Ala	Gln Val Gly Ser Gln	Trp Lys Asp Ile Tyr	Gln
425		430	435
Phe Leu Cys Asn	Ala Ser Glu Arg Glu	Val Ala Ala Phe Ser	Asn
440		445	450
Gly Tyr Thr Ala	Asp His Glu Arg Ala	Tyr Ala Ala Leu Gln	His
455		460	465
Trp Thr Ile Arg	Gly Pro Glu Ala Ser	Leu Ala Gln Leu Ile	Ser
470		475	480
Ala Leu Arg Gln	His Arg Arg Asn Asp	Val Val Glu Lys Ile	Arg
485		490	495
Gly Leu Met Glu	Asp Thr Thr Gln Leu	Glu Thr Asp Lys Leu	Ala
500		505	510
Leu Pro Met Ser	Pro Ser Pro Leu Ser	Pro Ser Pro Ile Pro	Ser
515		520	525
Pro Asn Ala Lys	Leu Glu Asn Ser Ala	Leu Leu Thr Val Glu	Pro
530		535	540
Ser Pro Gln Asp	Lys Asn Lys Gly Phe	Phe Val Asp Glu Ser	Glu
545		550	555
Pro Leu Leu Arg	Cys Asp Ser Thr Ser	Ser Gly Ser Ser Ala	Leu
560		565	570
Ser Arg Asn Gly	Ser Phe Ile Thr Lys	Glu Lys Lys Asp Thr	Val
575		580	585
Leu Arg Gln Val	Arg Leu Asp Pro Cys	Asp Leu Gln Pro Ile	Phe
590		595	600
Asp Asp Met Leu	His Phe Leu Asn Pro	Glu Glu Leu Arg Val	Ile
605		610	615

Glu	Glu	Ile	Pro	Gln	Ala	Glu	Asp	Lys	Leu	Asp	Arg	Leu	Phe	Glu
				620					625					630
Ile	Ile	Gly	Val	Lys	Ser	Gln	Glu	Ala	Ser	Gln	Thr	Leu	Leu	Asp
				635					640					645
Ser	Val	Tyr	Ser	His	Leu	Pro	Asp	Leu	Leu					
				650					655					

<210> 65
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 65
 gtagcagtg acatggggtg ttgg 24

<210> 66
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 66
 accgcacatc ctcaagtctt gtcc 24

<210> 67
 <211> 50
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 67
 acgatgatcg cgggctccct tctcctgctt ggattcctta gcaccaccac 50

<210> 68
 <211> 2412
 <212> DNA
 <213> Homo sapiens

<400> 68
 atgggaagcc agtaacactg tggcctacta tctcttccgt ggtgccatct 50
 acatttttgg gactcgggaa ttatgaggta gaggtggagg cggagccgga 100
 tgtcagaggt cctgaaatag tcacatggg ggaaaatgat ccgcctgctg 150
 ttgaagcccc cttctcattc cgatcgcttt ttggccttga tgatttgaaa 200
 ataagtcctg ttgcaccaga tgcagatgct gttgctgcac agatcctgtc 250

tcgctctggt gccaggtg gaggcagtg gcgaaatccc tgctcactgc 1750
 agcctccgct tccctggttc aagcgattct cttgcctcag cttccccagt 1800
 agctgggacc acaggtgccc gccaccacac ccaactaatt tttgtatttt 1850
 tagtagagac agggtttcac catgttggcc aggctgctct caaacccctg 1900
 acctcaaattg atgtgcctgc ttcagcctcc cacagtgcctg ggattacagg 1950
 catggggccac cagccttagc ctcacgctcc tttctgatct tcactaagaa 2000
 caaaagaagc agcaacttgc aaggcgggcc tttcccactg gtccatctgg 2050
 ttttctctcc agggctcttg aaaattcctg acgagataag cagttatgtg 2100
 acctcactg caaagccacc aacagccact cagaaaagac gcaccagccc 2150
 agaagtgcag aactgcagtc actgcacgtt ttcattctta gggaccagaa 2200
 ccaaaccac cctttctact tccaagactt attttcacat gtggggaggt 2250
 taatctagga atgactcgtt taaggcctat tttcatgatt tctttgtagc 2300
 atttggtgct tgacgtatta ttgtcctttg attccaaata atatgtttcc 2350
 ttccctcatt gtctggcgtg tctgcgtgga ctggtgacgt gaatcaaat 2400
 catccactga aa 2412

<210> 69
 <211> 453
 <212> PRT
 <213> Homo sapiens

<400> 69
 Met Gly Glu Asn Asp Pro Pro Ala Val Glu Ala Pro Phe Ser Phe
 1 5 10 15
 Arg Ser Leu Phe Gly Leu Asp Asp Leu Lys Ile Ser Pro Val Ala
 20 25 30
 Pro Asp Ala Asp Ala Val Ala Ala Gln Ile Leu Ser Leu Leu Pro
 35 40 45
 Leu Lys Phe Phe Pro Ile Ile Val Ile Gly Ile Ile Ala Leu Ile
 50 55 60
 Leu Ala Leu Ala Ile Gly Leu Gly Ile His Phe Asp Cys Ser Gly
 65 70 75
 Lys Tyr Arg Cys Arg Ser Ser Phe Lys Cys Ile Glu Leu Ile Ala
 80 85 90
 Arg Cys Asp Gly Val Ser Asp Cys Lys Asp Gly Glu Asp Glu Tyr
 95 100 105
 Arg Cys Val Arg Val Gly Gly Gln Asn Ala Val Leu Gln Val Phe

Thr	Ala	Ala	Ser	Trp	Lys	Thr	Met	Cys	Ser	Asp	Asp	Trp	Lys	Gly
				125					130					135
His	Tyr	Ala	Asn	Val	Ala	Cys	Ala	Gln	Leu	Gly	Phe	Pro	Ser	Tyr
				140					145					150
Val	Ser	Ser	Asp	Asn	Leu	Arg	Val	Ser	Ser	Leu	Glu	Gly	Gln	Phe
				155					160					165
Arg	Glu	Glu	Phe	Val	Ser	Ile	Asp	His	Leu	Leu	Pro	Asp	Asp	Lys
				170					175					180
Val	Thr	Ala	Leu	His	His	Ser	Val	Tyr	Val	Arg	Glu	Gly	Cys	Ala
				185					190					195
Ser	Gly	His	Val	Val	Thr	Leu	Gln	Cys	Thr	Ala	Cys	Gly	His	Arg
				200					205					210
Arg	Gly	Tyr	Ser	Ser	Arg	Ile	Val	Gly	Gly	Asn	Met	Ser	Leu	Leu
				215					220					225
Ser	Gln	Trp	Pro	Trp	Gln	Ala	Ser	Leu	Gln	Phe	Gln	Gly	Tyr	His
				230					235					240
Leu	Cys	Gly	Gly	Ser	Val	Ile	Thr	Pro	Leu	Trp	Ile	Ile	Thr	Ala
				245					250					255
Ala	His	Cys	Val	Tyr	Asp	Leu	Tyr	Leu	Pro	Lys	Ser	Trp	Thr	Ile
				260					265					270
Gln	Val	Gly	Leu	Val	Ser	Leu	Leu	Asp	Asn	Pro	Ala	Pro	Ser	His
				275					280					285
Leu	Val	Glu	Lys	Ile	Val	Tyr	His	Ser	Lys	Tyr	Lys	Pro	Lys	Arg
				290					295					300
Leu	Gly	Asn	Asp	Ile	Ala	Leu	Met	Lys	Leu	Ala	Gly	Pro	Leu	Thr
				305					310					315
Phe	Asn	Glu	Met	Ile	Gln	Pro	Val	Cys	Leu	Pro	Asn	Ser	Glu	Glu
				320					325					330
Asn	Phe	Pro	Asp	Gly	Lys	Val	Cys	Trp	Thr	Ser	Gly	Trp	Gly	Ala
				335					340					345
Thr	Glu	Asp	Gly	Gly	Asp	Ala	Ser	Pro	Val	Leu	Asn	His	Ala	Ala
				350					355					360
Val	Pro	Leu	Ile	Ser	Asn	Lys	Ile	Cys	Asn	His	Arg	Asp	Val	Tyr
				365					370					375
Gly	Gly	Ile	Ile	Ser	Pro	Ser	Met	Leu	Cys	Ala	Gly	Tyr	Leu	Thr
				380					385					390
Gly	Gly	Val	Asp	Ser	Cys	Gln	Gly	Asp	Ser	Gly	Gly	Pro	Leu	Val
				395					400					405

Cys Gln Glu Arg Arg Leu Trp Lys Leu Val Gly Ala Thr Ser Phe
410 415 420

Gly Ile Gly Cys Ala Glu Val Asn Lys Pro Gly Val Tyr Thr Arg
425 430 435

Val Thr Ser Phe Leu Asp Trp Ile His Glu Gln Met Glu Arg Asp
440 445 450

Leu Lys Thr

<210> 70
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 70
tgacatcgcc cttatgaagc tggc 24

<210> 71
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 71
tacacgtccc tgtggttgca gata 24

<210> 72
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 72
cgttcaatgc agaaatgata cagcctgtgt gcctgccaa ctctgaagag 50

<210> 73
<211> 3305
<212> DNA
<213> Homo sapiens

<400> 73
ccacgcgctc cgtcctagtc cccggggccaa ctcgacagc ttgctcattt 50
attgcaacgg tcaaggctgg cttgtgccag aacggcgcg cgcgcgcac 100
gcacgcacac acacgggggg aaactttttt aaaaatgaaa ggctagaaga 150
gtcagcggc ggcgcggggt ctgcgcgagg gctccggagc tgactcgccg 200

aggcaggaaa tccctccggt cgcgacgcc ggccccggct cggcgccccg 250
 gtgggatggt gcagcgctcg ccgccgggcc cgagagctgc tgcactgaag 300
 gccggcgacg atggcagcgc gcccgctgcc cgtgtcccc gcccgcgccc 350
 tcctgctcgc cctggccggt gctctgctcg cgcctgcga ggccccgagg 400
 gtgagcttat ggaaccaagg aagagctgat gaagttgtca gtgcctctgt 450
 tcggagtggg gacctctgga tcccagtga gagcttcgac tccaagaatc 500
 atccagaagt gctgaatatt cgactacaac gggaaagcaa agaactgatc 550
 ataaatctgg aaagaaatga aggtctcatt gccagcagtt tcacggaaac 600
 ccactatctg caagacggta ctgatgtctc cctcgctcga aattacacgg 650
 gtcactgtta ctaccatgga catgtacggg gatattctga ttcagcagtc 700
 agtctcagca cgtgttctgg tctcagggga cttattgtgt ttgaaaatga 750
 aagctatgtc ttagaaccaa tgaaaagtgc aaccaacaga taaaactct 800
 tcccagcgaa gaagctgaaa agcgtccggg gatcatgtgg atcacatcac 850
 aacacaccaa acctcgctgc aaagaatgtg tttccaccac cctctcagac 900
 atgggcaaga aggcataaaa gagagaccct caaggcaact aagtatgtgg 950
 agctggtgat cgtggcagac aaccgagagt ttcagaggca aggaaaagat 1000
 ctggaaaaag ttaagcagcg attaatagag attgctaata acgttgacaa 1050
 gttttacaga cactgaaca ttcggatcgt gttggtaggc gtggaagtgt 1100
 ggaatgacat ggacaaatgc tctgtaagtc aggaccatt caccagcctc 1150
 catgaatttc tggactggag gaagatgaag cttctacctc gcaaatacca 1200
 tgacaatgcg cagcttgtca gtgggggttta tttccaaggg accaccatcg 1250
 gcatggcccc aatcatgagc atgtgcacgg cagaccagtc tgggggaatt 1300
 gtcattggacc attcagacaa tccccttggg gcagccgtga ccctggcaca 1350
 tgagctgggc cacaatttcg ggatgaatca tgacacactg gacaggggct 1400
 gtagctgtca aatggcggtt gagaaaggag gctgcatcat gaacgcttcc 1450
 accgggtacc catttcccat ggtgttcagc agttgcagca ggaaggactt 1500
 ggagaccagc ctggagaaag gaatgggggt gtgcctgttt aacctgccgg 1550
 aagtcaggga gtctttcggg ggccagaagt gtgggaacag atttgtggaa 1600
 gaaggagagg agtgtgactg tggggagcca gaggaatgta tgaatcgctg 1650

ctgcaatgcc	accacctgta	ccctgaagcc	ggacgctgtg	tgcgcacatg	1700
ggctgtgctg	tgaagactgc	cagctgaagc	ctgcaggaac	agcgtgcagg	1750
gactccagca	actcctgtga	cctoccagag	ttctgcacag	gggccagccc	1800
tcactgcccc	gccaatgtgt	acctgcacga	tgggcactca	tgtcaggatg	1850
tggacggcta	ctgctacaat	ggcatctgcc	agactcacga	gcagcagtgt	1900
gtcacgctct	ggggaccagg	tgctaaacct	gcccctggga	tctgctttga	1950
gagagtcaat	tctgcagggtg	atccttatgg	caactgtggc	aaagtctcga	2000
agagttcctt	tgccaaatgc	gagatgagag	atgctaaatg	tggaaaaatc	2050
cagtgtcaag	gaggtgccag	ccggccagtc	attggtacca	atgccgtttc	2100
catagaaaca	aacatccctc	tgcagcaagg	aggccggatt	ctgtgccggg	2150
ggaccacagt	gtacttgggc	gatgacatgc	cggaccaggg	gcttgtgctt	2200
gcaggcacaa	agtgtgcaga	tggaaaaatc	tgcttgaatc	gtcaatgtca	2250
aaatattagt	gtctttgggg	ttcacgagtg	tgcaatgcag	tgccacggca	2300
gaggggtgtg	caacaacagg	aagaactgcc	actgcgaggc	ccactgggca	2350
cctcccttct	gtgacaagtt	tggctttgga	ggaagcacag	acagcggccc	2400
catccggcaa	gcagaagcaa	ggcaggaagc	tgcacagtcc	aacagggagc	2450
gcggccaggg	ccaggagccc	gtgggatcgc	aggagcatgc	gtctactgcc	2500
tcactgacac	tcatctgagc	cctcccatga	catggagacc	gtgaccagtg	2550
ctgctgcaga	ggaggtcacg	cgtccccaag	gcctcctgtg	actggcagca	2600
ttgactctgt	ggctttgcca	tcgtttccat	gacaacagac	acaacacagt	2650
tctcggggct	caggagggga	agtccagcct	accaggcacg	tctgcagaaa	2700
cagtgcgaagg	aagggcagcg	acttcctggt	tgagcttctg	ctaaaacatg	2750
gacatgcttc	agtgtctgctc	ctgagagagt	agcaggttac	cactctggca	2800
ggccccagcc	ctgcagcaag	gaggaagagg	actcaaaagt	ctggcctttc	2850
actgagcctc	cacagcagtg	ggggagaagc	aagggttggg	cccagtgtcc	2900
cctttcccca	gtgacacctc	agccttgga	gccctgatga	ctggtctctg	2950
gctgcaactt	aatgctctga	tatggctttt	agcatttatt	atatgaaaat	3000
agcaggggtt	tagtttttaa	tttatcagag	accctgccac	ccattccatc	3050
tccatccaag	caaactgaat	ggcaatgaaa	caaactggag	aagaaggtag	3100

gagaaagggc ggtgaactct ggctctttgc tgtggacatg cgtgaccagc 3150
 agtactcagg tttgaggggtt tgcagaaagc cagggaaaccc acagagtcac 3200
 caacccttca ttttaacaagt aagaatgtta aaaagtgaaa acaatgtaag 3250
 agcctaactc catcccccggt ggccattact gcataaaata gagtgcattt 3300
 gaaat 3305

<210> 74
 <211> 735
 <212> PRT
 <213> Homo sapiens

<400> 74
 Met Ala Ala Arg Pro Leu Pro Val Ser Pro Ala Arg Ala Leu Leu
 1 5 10 15
 Leu Ala Leu Ala Gly Ala Leu Leu Ala Pro Cys Glu Ala Arg Gly
 20 25 30
 Val Ser Leu Trp Asn Gln Gly Arg Ala Asp Glu Val Val Ser Ala
 35 40 45
 Ser Val Arg Ser Gly Asp Leu Trp Ile Pro Val Lys Ser Phe Asp
 50 55 60
 Ser Lys Asn His Pro Glu Val Leu Asn Ile Arg Leu Gln Arg Glu
 65 70 75
 Ser Lys Glu Leu Ile Ile Asn Leu Glu Arg Asn Glu Gly Leu Ile
 80 85 90
 Ala Ser Ser Phe Thr Glu Thr His Tyr Leu Gln Asp Gly Thr Asp
 95 100 105
 Val Ser Leu Ala Arg Asn Tyr Thr Gly His Cys Tyr Tyr His Gly
 110 115 120
 His Val Arg Gly Tyr Ser Asp Ser Ala Val Ser Leu Ser Thr Cys
 125 130 135
 Ser Gly Leu Arg Gly Leu Ile Val Phe Glu Asn Glu Ser Tyr Val
 140 145 150
 Leu Glu Pro Met Lys Ser Ala Thr Asn Arg Tyr Lys Leu Phe Pro
 155 160 165
 Ala Lys Lys Leu Lys Ser Val Arg Gly Ser Cys Gly Ser His His
 170 175 180
 Asn Thr Pro Asn Leu Ala Ala Lys Asn Val Phe Pro Pro Pro Ser
 185 190 195
 Gln Thr Trp Ala Arg Arg His Lys Arg Glu Thr Leu Lys Ala Thr
 200 205 210

Lys Tyr Val Glu	Leu Val Ile Val Ala	Asp Asn Arg Glu Phe	Gln
215		220	225
Arg Gln Gly Lys	Asp Leu Glu Lys Val	Lys Gln Arg Leu Ile	Glu
230		235	240
Ile Ala Asn His	Val Asp Lys Phe Tyr	Arg Pro Leu Asn Ile	Arg
245		250	255
Ile Val Leu Val	Gly Val Glu Val Trp	Asn Asp Met Asp Lys	Cys
260		265	270
Ser Val Ser Gln	Asp Pro Phe Thr Ser	Leu His Glu Phe Leu	Asp
275		280	285
Trp Arg Lys Met	Lys Leu Leu Pro Arg	Lys Ser His Asp Asn	Ala
290		295	300
Gln Leu Val Ser	Gly Val Tyr Phe Gln	Gly Thr Thr Ile Gly	Met
305		310	315
Ala Pro Ile Met	Ser Met Cys Thr Ala	Asp Gln Ser Gly Gly	Ile
320		325	330
Val Met Asp His	Ser Asp Asn Pro Leu	Gly Ala Ala Val Thr	Leu
335		340	345
Ala His Glu Leu	Gly His Asn Phe Gly	Met Asn His Asp Thr	Leu
350		355	360
Asp Arg Gly Cys	Ser Cys Gln Met Ala	Val Glu Lys Gly Gly	Cys
365		370	375
Ile Met Asn Ala	Ser Thr Gly Tyr Pro	Phe Pro Met Val Phe	Ser
380		385	390
Ser Cys Ser Arg	Lys Asp Leu Glu Thr	Ser Leu Glu Lys Gly	Met
395		400	405
Gly Val Cys Leu	Phe Asn Leu Pro Glu	Val Arg Glu Ser Phe	Gly
410		415	420
Gly Gln Lys Cys	Gly Asn Arg Phe Val	Glu Glu Gly Glu Glu	Cys
425		430	435
Asp Cys Gly Glu	Pro Glu Glu Cys Met	Asn Arg Cys Cys Asn	Ala
440		445	450
Thr Thr Cys Thr	Leu Lys Pro Asp Ala	Val Cys Ala His Gly	Leu
455		460	465
Cys Cys Glu Asp	Cys Gln Leu Lys Pro	Ala Gly Thr Ala Cys	Arg
470		475	480
Asp Ser Ser Asn	Ser Cys Asp Leu Pro	Glu Phe Cys Thr Gly	Ala
485		490	495
Ser Pro His Cys	Pro Ala Asn Val Tyr	Leu His Asp Gly His	Ser

					500					505					510
Cys	Gln	Asp	Val	Asp	Gly	Tyr	Cys	Tyr	Asn	Gly	Ile	Cys	Gln	Thr	
				515					520					525	
His	Glu	Gln	Gln	Cys	Val	Thr	Leu	Trp	Gly	Pro	Gly	Ala	Lys	Pro	
				530					535					540	
Ala	Pro	Gly	Ile	Cys	Phe	Glu	Arg	Val	Asn	Ser	Ala	Gly	Asp	Pro	
				545					550					555	
Tyr	Gly	Asn	Cys	Gly	Lys	Val	Ser	Lys	Ser	Ser	Phe	Ala	Lys	Cys	
				560					565					570	
Glu	Met	Arg	Asp	Ala	Lys	Cys	Gly	Lys	Ile	Gln	Cys	Gln	Gly	Gly	
				575					580					585	
Ala	Ser	Arg	Pro	Val	Ile	Gly	Thr	Asn	Ala	Val	Ser	Ile	Glu	Thr	
				590					595					600	
Asn	Ile	Pro	Leu	Gln	Gln	Gly	Gly	Arg	Ile	Leu	Cys	Arg	Gly	Thr	
				605					610					615	
His	Val	Tyr	Leu	Gly	Asp	Asp	Met	Pro	Asp	Pro	Gly	Leu	Val	Leu	
				620					625					630	
Ala	Gly	Thr	Lys	Cys	Ala	Asp	Gly	Lys	Ile	Cys	Leu	Asn	Arg	Gln	
				635					640					645	
Cys	Gln	Asn	Ile	Ser	Val	Phe	Gly	Val	His	Glu	Cys	Ala	Met	Gln	
				650					655					660	
Cys	His	Gly	Arg	Gly	Val	Cys	Asn	Asn	Arg	Lys	Asn	Cys	His	Cys	
				665					670					675	
Glu	Ala	His	Trp	Ala	Pro	Pro	Phe	Cys	Asp	Lys	Phe	Gly	Phe	Gly	
				680					685					690	
Gly	Ser	Thr	Asp	Ser	Gly	Pro	Ile	Arg	Gln	Ala	Glu	Ala	Arg	Gln	
				695					700					705	
Glu	Ala	Ala	Glu	Ser	Asn	Arg	Glu	Arg	Gly	Gln	Gly	Gln	Glu	Pro	
				710					715					720	
Val	Gly	Ser	Gln	Glu	His	Ala	Ser	Thr	Ala	Ser	Leu	Thr	Leu	Ile	
				725					730					735	

```
<210> 75
<211> 483
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> 30, 94, 143, 156, 163, 179, 193, 369, 371, 381, 390, 473
<223> unknown base

<400> 75
```


tcccaaggct tcttgatgg cagatgattn tggggttttg cattgtttcc 50
 ctgacaacga aaacaaaaca gttttggggg ttcaggaggg gaantccagc 100
 ctacccagga agtttgcaga aacagtgcaa ggaagggcag ganttcctgg 150
 ttgagntttt tgntaaaaca tggacatgnt tcagtgtgc tcntgagaga 200
 gtagcagggtt accacttttg gcaggcccca gccctgcagc aaggaggaaag 250
 aggactcaaa agtttggcct ttcactgagc ctccacagca gtggggggaga 300
 agcaaggggtt gggcccagtg tcccctttcc ccagtgcac ctcagccttg 350
 gcagccctga taactggnt ntggctgcaa nttaatgctn tgatatggct 400
 tttagcattt attatatgaa aatagcaggg ttttagtttt taatttatca 450
 gagaccctgc caccattcc atntccatcc aag 483

<210> 76

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 76

gtctcagcac gtgttctggt ctcaggg 27

<210> 77

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 77

catgagcatg tgcacggc 18

<210> 78

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 78

tacctgcacg atgggcac 18

<210> 79

<211> 18

<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 79
cactgggcac ctcccttc 18

<210> 80
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 80
ctccaggctg gtctccaagt ccttcc 26

<210> 81
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 81
tcocctggttg actctgcagc ttcc 24

<210> 82
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 82
cttcgctggg aagagtttg 19

<210> 83
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 83
gtgcaaccaa cagatacaaa ctcttcccag cgaagaagct gaaaagcgtc 50

<210> 84
<211> 1714
<212> DNA
<213> Homo sapiens

<400> 84
catcctgcaa catggtgaaa ccacgcctgg ctaattttgt tgtatttttg 50

gtagagatgg	gatttcaccg	tgttagccag	gattgtctca	atctgacctc	100
atgatctgcc	cgctcggcc	tcccaaagtg	ctgggattac	aggcgagtgc	150
aaccacaccc	ggccacaaac	tttttaagaa	gttaatgaaa	ccataccttt	200
tacattttta	atgacaggaa	aatgctcaca	ataattgtta	acccaaaatt	250
ctggatacaa	aagtacaatc	tttactgtgt	aaatacatgt	atatgtacta	300
tatgaaaata	taccaaatat	caataatact	tatctctggg	taaaaacctc	350
ttctcatacc	ctgtgctaac	aactttttaac	aaaaaatttg	catcactttt	400
agaatcaag	aaaaatttct	gaaggtcata	tgggacagaa	aaaaaaacca	450
agggaanaat	cacgccactt	gggaaaaaaa	gattcgaaat	ctgccttttt	500
atagatttgt	aattaataag	gtccaggctt	tctaagcaac	ttaaattgtt	550
tgtttcgaaa	caaagtactt	gtctggatgt	aggaggaaaag	ggagtgatgt	600
cactgccatt	atgatgcccc	ttgaatataa	gaccctactt	gctatctccc	650
ctgcaccagc	caggagccac	ccatcctcca	gcacactgag	cagcaagctg	700
gacacacggc	acactgatcc	aaatgggtaa	ggggatgggtg	gcgatgctca	750
ttctgggtct	gctactttctg	gcgctgctcc	taccctgca	ggtttcttca	800
tttgttcctt	taaccagtat	gccggaagct	actgcagccg	aaaccacaaa	850
gccctccaac	agtgccctac	agcctacagc	cggctctcctt	gtggtcttgc	900
ttgcccttct	acatctctac	cattaagagg	caggtcaaga	aacagctaca	950
gttctccaac	ccatacacta	aaaccgaatc	caaatgggtgc	ctagaagttc	1000
aatgtggcaa	ggaaaaaaac	caggtcttca	tcaaactctac	taatttcact	1050
ccttattaac	agagaaacgc	ttgagagtct	caaactggac	tggtttaaag	1100
agcatctgaa	ggatttgact	agatgataaa	tgcctgtact	cccagtactt	1150
tgggaggcct	aggccggcgg	atcacctgag	gtcaggagtt	tgagactaac	1200
ctggccaaaa	tggtgaaacc	ccatctgtac	taaaaataca	aatattgact	1250
gggcgtgggtg	gtgagtgcct	gtgatcccag	ctactcaggt	ggctgaagca	1300
ggacaatcac	ttgaactcag	gaggcagagg	ttgcagtgag	ctgagatcgc	1350
gctactgcac	tctagcctag	cctgggcaac	agagtgagac	ttcgtctcaa	1400
aaaaaaaaaa	gccaagtgca	gtggctcacg	cctgtaatcc	cggcactttg	1450
ggaggccgag	gtgggcggat	cacgaggtca	ggagatcaag	accatcctgg	1500

ctaatacagt gaaaccctgt ctctactaaa aatacaaaaa attagccggg 1550
gatggtggca ggcacctgga gtcccagcta ctcgggaggc tgaggcagga 1600
gaatagcgtg aactcaggag gcgagcttg cagtgagccg agattgcgct 1650
actgcactcc agcctgggag acagcgcgag actccgtctc aaaaaaaaaa 1700
aaaaaaaaaa aaaa 1714

<210> 85
<211> 67
<212> PRT
<213> Homo sapiens

<400> 85
Met Gly Lys Gly Met Val Ala Met Leu Ile Leu Gly Leu Leu Leu
1 5 10 15
Leu Ala Leu Leu Leu Pro Val Gln Val Ser Ser Phe Val Pro Leu
20 25 30
Thr Ser Met Pro Glu Ala Thr Ala Ala Glu Thr Thr Lys Pro Ser
35 40 45
Asn Ser Ala Leu Gln Pro Thr Ala Gly Leu Leu Val Val Leu Leu
50 55 60
Ala Leu Leu His Leu Tyr His
65

<210> 86
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 86
acgggcacac tggatcccaa atg 23

<210> 87
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 87
ggtagagatg tagaaggga agcaagacc 29

<210> 88
<211> 50
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 88

gctccctacc cgtgcagggt tcttcatttg ttcctttaac cagtatgccg 50

<210> 89

<211> 2956

<212> DNA

<213> Homo sapiens

<400> 89

gccgcggcga gagcgcgccc agccccgccg cgatgcccg gcgcccagga 50

cgccctctcc cgctgctggc ccggccggcg gccctgactg cgctgctgct 100

gctgctgctg ggccatggcg gcggcgggcg ctggggcgcc cgggcccagg 150

aggcgggcgc ggcgggcgcg gacgggcccc ccgcggcaga cggcgaggac 200

ggacaggacc cgcacagcaa gcacctgtac acggccgaca tggtcacgca 250

cgggatccag agcgcgcgcg acttcgtcat gttcttcgcg ccctgggtgtg 300

gacactgcca gcggctgcag ccgacttggg atgacctggg agacaaatac 350

aacagcatgg aagatgcaa agtctatgtg gctaaagtgg actgcacggc 400

ccactccgac gtgtgctccg cccagggggg gcgaggatac cccaccttaa 450

agcttttcaa gccaggccaa gaagctgtga agtaccaggg tcctcgggac 500

ttccagacac tggaaaactg gatgctgcag aactgaacg aggagccagt 550

gacaccagag ccggaagtgg aaccgcccag tgccccgag ctcaagcaag 600

ggctgtatga gctctcagca agcaactttg agctgcacgt tgcacaaggc 650

gaccacttta tcaagttctt cgctccgtgg tgtggtcact gcaaagccct 700

ggctccaacc tgggagcagc tggctctggg ccttgaacat tccgaaactg 750

tcaagattgg caaggttgat tgtacacagc actatgaact ctgctccgga 800

aaccaggttc gtggctatcc cactcttctc tggttccgag atgggaaaaa 850

ggtggatcag tacaaggga agcgggattt ggagtcactg agggagtacg 900

tggagtcgca gctgcagcgc acagagactg gagcgacgga gaccgtcacg 950

ccctcagagg ccccggtgct ggagctgag cccgaggctg acaagggcac 1000

tgtgttgga ctcactgaaa ataacttcga tgacaccatt gcagaaggaa 1050

taaccttcat caagttttat gctccatggt gtggtcattg taagactctg 1100

gctcctactt gggaggaact ctctaaaaag gaattccctg gtctggcggg 1150

ggtcaagatc	gccgaagtag	actgcactgc	tgaacggaat	atctgcagca	1200
agtattcggg	acgaggctac	cccacgttat	tgcttttccg	aggagggaag	1250
aaagtcagtg	agcacagtgg	aggcagagac	cttgactcgt	tacaccgctt	1300
tgtcctgagc	caagcgaaag	acgaacttta	ggaacacagt	tggaggtcac	1350
ctctcctgcc	cagctcccgc	accctgcgtt	taggagttca	gtcccacaga	1400
ggccactggg	ttcccagtgg	tggctgttca	gaaagcagaa	catactaagc	1450
gtgaggtatc	ttcttttgtg	gtgtgttttc	caagccaaca	cactctacag	1500
attctttatt	aagttaagtt	tctctaagta	aatgtgtaac	tcatggtcac	1550
tgtgtaaaca	ttttcagtgg	cgatatatcc	cctttgacct	tctcttgatg	1600
aaatttacat	ggtttccttt	gagactaaaa	tagcgttgag	ggaaatgaaa	1650
ttgctggact	at ttgtggct	cctgagttga	gtgattttgg	tgaagaaaag	1700
cacatccaaa	gcatagttta	cctgcccacg	agttctggaa	aggtggcctt	1750
gtggcagtat	tgacgttcct	ctgatcttaa	ggtcacagtt	gactcaatac	1800
tgtgttggtc	cgtagcatgg	agcagattga	aatgcaaaaa	cccacacctc	1850
tggaagatac	cttcacggcc	gctgctggag	cttctgttgc	tgtgaatact	1900
tctctcagtg	tgagaggtta	gccgtgatga	aagcagcggt	acttctgacc	1950
gtgcctgagt	aagagaatgc	tgatgccata	actttatgtg	tcgatacttg	2000
tcaaatcagt	tactgttcag	gggatccttc	tgtttctcac	ggggtgaaac	2050
atgtctttag	ttcctcatgt	taacacgaag	ccagagccca	catgaactgt	2100
tggatgtctt	ccttagaaaag	ggtaggcatg	gaaaattcca	cgaggctcat	2150
tctcagtatc	tcattaactc	attgaaagat	tccagttgta	tttgtcacct	2200
ggggtgacaa	gaccagacag	gctttcccag	gcctgggtat	ccaggagggc	2250
tctgcagccc	tgctgaaggg	ccctaactag	agttctagag	tttctgattc	2300
tgtttctcag	tagtcctttt	agaggcttgc	tatacttggt	ctgcttcaag	2350
gaggtcgacc	ttctaattgta	tgaagaatgg	gatgcatttg	atctcaagac	2400
caaagacaga	tgtcagtggg	ctgctctggc	cctgggtgtg	acggctgtgg	2450
cagctgttga	tgccagtgtc	ctctaactca	tgctgtcctt	gtgattaaac	2500
acctctatct	cccttgggaa	taagcacata	caggcttaag	ctctaagata	2550
gataggtgtt	tgtcctttta	ccatcgagct	acttcccata	ataaccactt	2600

tgcattcaac actcttcacc cacctcccat acgcaagggg atgtggatac 2650
 ttggcccaaa gtaactggtg gtaggaatct tagaaacaag accacttata 2700
 ctgtctgtct gaggcagaag ataacagcag catctcgacc agcctctgcc 2750
 ttaaaggaaa tctttattaa tcacgtatgg ttcacagata attctttttt 2800
 taaaaaaacc caacctccta gagaagcaca actgtcaaga gtcttgatac 2850
 cacaacttca gctttgcata acgagtcttg tattccaaga aaatcaaagt 2900
 ggtacaattt gtttgtttac actatgatac tttctaaata aactcttttt 2950
 ttttaa 2956

<210> 90
 <211> 432
 <212> PRT
 <213> Homo sapiens

<400> 90

Met	Pro	Ala	Arg	Pro	Gly	Arg	Leu	Leu	Pro	Leu	Leu	Ala	Arg	Pro	1	5	10	15
Ala	Ala	Leu	Thr	Ala	Leu	Leu	Leu	Leu	Leu	Leu	Gly	His	Gly	Gly	20	25	30	
Gly	Gly	Arg	Trp	Gly	Ala	Arg	Ala	Gln	Glu	Ala	Ala	Ala	Ala	Ala	35	40	45	
Ala	Asp	Gly	Pro	Pro	Ala	Ala	Asp	Gly	Glu	Asp	Gly	Gln	Asp	Pro	50	55	60	
His	Ser	Lys	His	Leu	Tyr	Thr	Ala	Asp	Met	Phe	Thr	His	Gly	Ile	65	70	75	
Gln	Ser	Ala	Ala	His	Phe	Val	Met	Phe	Phe	Ala	Pro	Trp	Cys	Gly	80	85	90	
His	Cys	Gln	Arg	Leu	Gln	Pro	Thr	Trp	Asn	Asp	Leu	Gly	Asp	Lys	95	100	105	
Tyr	Asn	Ser	Met	Glu	Asp	Ala	Lys	Val	Tyr	Val	Ala	Lys	Val	Asp	110	115	120	
Cys	Thr	Ala	His	Ser	Asp	Val	Cys	Ser	Ala	Gln	Gly	Val	Arg	Gly	125	130	135	
Tyr	Pro	Thr	Leu	Lys	Leu	Phe	Lys	Pro	Gly	Gln	Glu	Ala	Val	Lys	140	145	150	
Tyr	Gln	Gly	Pro	Arg	Asp	Phe	Gln	Thr	Leu	Glu	Asn	Trp	Met	Leu	155	160	165	
Gln	Thr	Leu	Asn	Glu	Glu	Pro	Val	Thr	Pro	Glu	Pro	Glu	Val	Glu	170	175	180	

<400> 91
atgttcttcg cgccctggtg 20

<210> 92

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 92

ccaagccaac acactctaca g 21

<210> 93

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 93

aagtggtcgc cttgtgcaac gtgc 24

<210> 94

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 94

ggtcaaagg gatatatcgc cac 23

<210> 95

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 95

gcatggaaga tgccaaagtc tatgtggcta aagtggactg cacggcca 49

<210> 96

<211> 1016

<212> DNA

<213> Homo sapiens

<400> 96

cttttctgag gaaccacagc aatgaatggc tttgcatcct tgcttogaag 50

aaaccaattt atcctcctgg tactatttct tttgcaaatt cagagtctgg 100

gtctggatat tgatagccgt cctaccgctg aagtctgtgc cacacacaca 150

80	85	90
Thr Gly Pro Ile Gly Lys Lys Gly Asp 95	Lys Gly Glu Lys Gly Leu 100	
Leu Gly Ile Pro Gly Glu Lys Gly Lys 110	Ala Gly Thr Val Cys Asp 115	120
Cys Gly Arg Tyr Arg Lys Phe Val Gly 125	Gln Leu Asp Ile Ser Ile 130	135
Ala Arg Leu Lys Thr Ser Met Lys Phe 140	Val Lys Asn Val Ile Ala 145	150
Gly Ile Arg Glu Thr Glu Glu Lys Phe 155	Tyr Tyr Ile Val Gln Glu 160	165
Glu Lys Asn Tyr Arg Glu Ser Leu Thr 170	His Cys Arg Ile Arg Gly 175	180
Gly Met Leu Ala Met Pro Lys Asp Glu 185	Ala Ala Asn Thr Leu Ile 190	195
Ala Asp Tyr Val Ala Lys Ser Gly Phe 200	Phe Arg Val Phe Ile Gly 205	210
Val Asn Asp Leu Glu Arg Glu Gly Gln 215	Tyr Met Ser Thr Asp Asn 220	225
Thr Pro Leu Gln Asn Tyr Ser Asn Trp 230	Asn Glu Gly Glu Pro Ser 235	240
Asp Pro Tyr Gly His Glu Asp Cys Val 245	Glu Met Leu Ser Ser Gly 250	255
Arg Trp Asn Asp Thr Glu Cys His Leu 260	Thr Met Tyr Phe Val Cys 265	270
Glu Phe Ile Lys Lys Lys Lys 275		

<210> 98

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 98

cgctgactat gttgccaaga gtgg 24

<210> 99

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 99

gatgatggag gctccatacc tcag 24

<210> 100

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 100

gtgttcattg gcgtgaatga ccttgaaagg gagggacagt acatgttcac 50

<210> 101

<211> 2574

<212> DNA

<213> Homo sapiens

<400> 101

ggttctatcg attcgaattc ggccacactg gccggatcct ctagagatcc 50
ctcgacctcg acccaacggt ccgctgctct ccgccctgtt ggagtgggtg 100
gggcctgggt gggaatgggc gtgtgccagc gcacgcgcgc tccctggaag 150
gagaagtctc agctagaacg agcggcccta ggttttcgga agggaggatc 200
agggatgttt gcgagcggct ggaaccagac ggtgccgata gaggaagcgg 250
gctccatggc tgccctcctg ctgctgcccc tgctgctgtt gctaccgctg 300
ctgctgctga agctacacct ctggccgcag ttgcgctggc ttccggcgga 350
cttggccctt gcggtgcgag ctctgtgctg caaaagggt cttcgagctc 400
gcgccctggc cgcggctgcc gccgaccgg aaggtcccga ggggggctgc 450
agcctggcct ggccgctcgc ggaactggcc cagcagcgcg ccgcgcacac 500
ctttctcatt cacggctcgc ggcgcttttag ctactcagag gcggagcgcg 550
agagtaacag ggctgcacgc gccttcctac gtgcgctagg ctgggactgg 600
ggaccgcagc gcggcgacag cggcgagggg agcgcctggag aaggcgagcg 650
ggcagcgcgc ggagccggag atgcagcggc cggaagcggc gcggagtgtg 700
ccggagggga cggtgccgcc agaggtggag gagccgccgc ccctctgtca 750
cctggagcaa ctgtggcgct gctcctcccc gctggcccag agtttctgtg 800
gctctgggtt gggctggcca aggccggcct gcgcactgcc tttgtgcca 850
ccgccctgcg ccggggcccc ctgctgcact gcctccgcag ctgcggcgcg 900

tgggggccgt tgcaggtgta ctgggctgtc agggatcttt tctataccag 2400
 aactgcggtc actattttgt aataaatgtg gctggagctg atccagctgt 2450
 ctctgaccta aaaaaaaaaa aaaaaaaaaa aaaaaaaaag ggcggccgcg 2500
 actctagagt cgacctgcag tagggataac agggtaataa gcttggccgc 2550
 catggcccaa cttgtttatt gcag 2574

<210> 102

<211> 730

<212> PRT

<213> Homo sapiens

<400> 102

Met	Gly	Val	Cys	Gln	Arg	Thr	Arg	Ala	Pro	Trp	Lys	Glu	Lys	Ser	1	5	10	15
Gln	Leu	Glu	Arg	Ala	Ala	Leu	Gly	Phe	Arg	Lys	Gly	Gly	Ser	Gly	20	25	30	
Met	Phe	Ala	Ser	Gly	Trp	Asn	Gln	Thr	Val	Pro	Ile	Glu	Glu	Ala	35	40	45	
Gly	Ser	Met	Ala	Ala	Leu	Leu	Leu	Leu	Pro	Leu	Leu	Leu	Leu	Leu	50	55	60	
Pro	Leu	Leu	Leu	Leu	Lys	Leu	His	Leu	Trp	Pro	Gln	Leu	Arg	Trp	65	70	75	
Leu	Pro	Ala	Asp	Leu	Ala	Phe	Ala	Val	Arg	Ala	Leu	Cys	Cys	Lys	80	85	90	
Arg	Ala	Leu	Arg	Ala	Arg	Ala	Leu	Ala	Ala	Ala	Ala	Ala	Asp	Pro	95	100	105	
Glu	Gly	Pro	Glu	Gly	Gly	Cys	Ser	Leu	Ala	Trp	Arg	Leu	Ala	Glu	110	115	120	
Leu	Ala	Gln	Gln	Arg	Ala	Ala	His	Thr	Phe	Leu	Ile	His	Gly	Ser	125	130	135	
Arg	Arg	Phe	Ser	Tyr	Ser	Glu	Ala	Glu	Arg	Glu	Ser	Asn	Arg	Ala	140	145	150	
Ala	Arg	Ala	Phe	Leu	Arg	Ala	Leu	Gly	Trp	Asp	Trp	Gly	Pro	Asp	155	160	165	
Gly	Gly	Asp	Ser	Gly	Glu	Gly	Ser	Ala	Gly	Glu	Gly	Glu	Arg	Ala	170	175	180	
Ala	Pro	Gly	Ala	Gly	Asp	Ala	Ala	Ala	Gly	Ser	Gly	Ala	Glu	Phe	185	190	195	
Ala	Gly	Gly	Asp	Gly	Ala	Ala	Arg	Gly	Gly	Gly	Ala	Ala	Ala	Pro	200	205	210	

Leu	Ser	Pro	Gly	Ala	Thr	Val	Ala	Leu	Leu	Leu	Pro	Ala	Gly	Pro	215	220	225
Glu	Phe	Leu	Trp	Leu	Trp	Phe	Gly	Leu	Ala	Lys	Ala	Gly	Leu	Arg	230	235	240
Thr	Ala	Phe	Val	Pro	Thr	Ala	Leu	Arg	Arg	Gly	Pro	Leu	Leu	His	245	250	255
Cys	Leu	Arg	Ser	Cys	Gly	Ala	Arg	Ala	Leu	Val	Leu	Ala	Pro	Glu	260	265	270
Phe	Leu	Glu	Ser	Leu	Glu	Pro	Asp	Leu	Pro	Ala	Leu	Arg	Ala	Met	275	280	285
Gly	Leu	His	Leu	Trp	Ala	Ala	Gly	Pro	Gly	Thr	His	Pro	Ala	Gly	290	295	300
Ile	Ser	Asp	Leu	Leu	Ala	Glu	Val	Ser	Ala	Glu	Val	Asp	Gly	Pro	305	310	315
Val	Pro	Gly	Tyr	Leu	Ser	Ser	Pro	Gln	Ser	Ile	Thr	Asp	Thr	Cys	320	325	330
Leu	Tyr	Ile	Phe	Thr	Ser	Gly	Thr	Thr	Gly	Leu	Pro	Lys	Ala	Ala	335	340	345
Arg	Ile	Ser	His	Leu	Lys	Ile	Leu	Gln	Cys	Gln	Gly	Phe	Tyr	Gln	350	355	360
Leu	Cys	Gly	Val	His	Gln	Glu	Asp	Val	Ile	Tyr	Leu	Ala	Leu	Pro	365	370	375
Leu	Tyr	His	Met	Ser	Gly	Ser	Leu	Leu	Gly	Ile	Val	Gly	Cys	Met	380	385	390
Gly	Ile	Gly	Ala	Thr	Val	Val	Leu	Lys	Ser	Lys	Phe	Ser	Ala	Gly	395	400	405
Gln	Phe	Trp	Glu	Asp	Cys	Gln	Gln	His	Arg	Val	Thr	Val	Phe	Gln	410	415	420
Tyr	Ile	Gly	Glu	Leu	Cys	Arg	Tyr	Leu	Val	Asn	Gln	Pro	Pro	Ser	425	430	435
Lys	Ala	Glu	Arg	Gly	His	Lys	Val	Arg	Leu	Ala	Val	Gly	Ser	Gly	440	445	450
Leu	Arg	Pro	Asp	Thr	Trp	Glu	Arg	Phe	Val	Arg	Arg	Phe	Gly	Pro	455	460	465
Leu	Gln	Val	Leu	Glu	Thr	Tyr	Gly	Leu	Thr	Glu	Gly	Asn	Val	Ala	470	475	480
Thr	Ile	Asn	Tyr	Thr	Gly	Gln	Arg	Gly	Ala	Val	Gly	Arg	Ala	Ser	485	490	495
Trp	Leu	Tyr	Lys	His	Ile	Phe	Pro	Phe	Ser	Leu	Ile	Arg	Tyr	Asp			

500	505	510
Val Thr Thr Gly Glu Pro Ile Arg Asp 515	Pro Gln Gly His Cys Met 520	
Ala Thr Ser Pro Gly Glu Pro Gly Leu 530	Leu Val Ala Pro Val Ser 535	
Gln Gln Ser Pro Phe Leu Gly Tyr Ala 545	Gly Gly Pro Glu Leu Ala 550	
Gln Gly Lys Leu Leu Lys Asp Val Phe 560	Arg Pro Gly Asp Val Phe 565	
Phe Asn Thr Gly Asp Leu Leu Val Cys 575	Asp Asp Gln Gly Phe Leu 580	
Arg Phe His Asp Arg Thr Gly Asp Thr 590	Phe Arg Trp Lys Gly Glu 595	
Asn Val Ala Thr Thr Glu Val Ala Glu 605	Val Phe Glu Ala Leu Asp 610	
Phe Leu Gln Glu Val Asn Val Tyr Gly 620	Val Thr Val Pro Gly His 625	
Glu Gly Arg Ala Gly Met Ala Ala Leu 635	Val Leu Arg Pro Pro His 640	
Ala Leu Asp Leu Met Gln Leu Tyr Thr 650	His Val Ser Glu Asn Leu 655	
Pro Pro Tyr Ala Arg Pro Arg Phe Leu 665	Arg Leu Gln Glu Ser Leu 670	
Ala Thr Thr Glu Thr Phe Lys Gln Gln 680	Lys Val Arg Met Ala Asn 685	
Glu Gly Phe Asp Pro Ser Thr Leu Ser 695	Asp Pro Leu Tyr Val Leu 700	
Asp Gln Ala Val Gly Ala Tyr Leu Pro 710	Leu Thr Thr Ala Arg Tyr 715	
Ser Ala Leu Leu Ala Gly Asn Leu Arg 725	Ile 730	

<210> 103

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 103

gagagccatg gggctccacc tg 22

<210> 104
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 104
ggagaatgtg gccacaac 18

<210> 105
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 105
gccctggcac agtgactcca tagacg 26

<210> 106
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 106
atccacttca gcggacac 18

<210> 107
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 107
ccagtgccag gatacctctc ttccccccag agcataacag acacg 45

<210> 108
<211> 2579
<212> DNA
<213> Homo sapiens

<400> 108
cctgtgttaa gctgaggttt cccctagatc tcgtatatcc ccaacacata 50
cctccacgca cacacatccc caagaacctc gagctcacac caacagacac 100
acgcgcgcat acacaactgc tctcgtttgt ccatctccct cccgggggag 150
ccggcgcgcg ctcccacott tgcgcacac tccggcgagc cgagcccgca 200

[illegible]

acgtttcagg ccctacaatc ctgaggaaag accaacaact gctgcaggca 1700
 caagcttgga ccggctggtc acagacataa aagagaaatt gaagctctct 1750
 aaaaagggtct ggtcagcatt accctacact atotgcaagg acgagagcgt 1800
 gacagcgggc acgtccaacg aggaggaatg ctggaacggg cacagcaaag 1850
 ccagatactt gcctgagatc atgaatgatg ggctcaccaa ccagatcaac 1900
 aatcccaggg tggatgtgga catcactcgg cctgacactt tcatcagaca 1950
 gcagattatg gctctccgtg tgatgaccaa caaactaaaa aacgcctaca 2000
 atggcaatga tgtcaatttc caggacacaa gtgatgaatc cagtgggtca 2050
 gggagtggca gtgggtgcat ggatgacgtg tgtcccacgg agtttgagtt 2100
 tgtcaccaca gaggcccccg cagtggatcc cgaccggaga gaggtggact 2150
 cttctgcagc ccagcgtggc cactccctgc tctcctggtc tctcacctgc 2200
 attgtcctgg cactgcagag actgtgcaga taatcttggg tttttgggtca 2250
 gatgaaactg catttttagct atctgaatgg ccaactcact tcttttctta 2300
 cactcttggg caatggacca tgccacaaaa acttaccgtt ttctatgaga 2350
 agagagcagt aatgcaatct gcctcccttt ttgttttccc aaagagtacc 2400
 gggtgccaga ctgaactgct tcctctttcc ttcagctatc tgtggggacc 2450
 ttgtttattc tagagagaat tcttactcaa atttttcgtc ccaggagatt 2500
 ttcttacctt catttgcttt tatgctgcag aagtaaagga atctcacgtt 2550
 gtgaggggtt tttttttctc atttaaaat 2579

<210> 109

<211> 555

<212> PRT

<213> Homo sapiens

<400> 109

Met	Pro	Ser	Trp	Ile	Gly	Ala	Val	Ile	Leu	Pro	Leu	Leu	Gly	Leu
1				5					10					15
Leu	Leu	Ser	Leu	Pro	Ala	Gly	Ala	Asp	Val	Lys	Ala	Arg	Ser	Cys
				20					25					30
Gly	Glu	Val	Arg	Gln	Ala	Tyr	Gly	Ala	Lys	Gly	Phe	Ser	Leu	Ala
				35					40					45
Asp	Ile	Pro	Tyr	Gln	Glu	Ile	Ala	Gly	Glu	His	Leu	Arg	Ile	Cys
				50					55					60
Pro	Gln	Glu	Tyr	Thr	Cys	Cys	Thr	Thr	Glu	Met	Glu	Asp	Lys	Leu
				65					70					75

Ser	Gln	Gln	Ser	Lys	Leu	Glu	Phe	Glu	Asn	Leu	Val	Glu	Glu	Thr	80	85	90
Ser	His	Phe	Val	Arg	Thr	Thr	Phe	Val	Ser	Arg	His	Lys	Lys	Phe	95	100	105
Asp	Glu	Phe	Phe	Arg	Glu	Leu	Leu	Glu	Asn	Ala	Glu	Lys	Ser	Leu	110	115	120
Asn	Asp	Met	Phe	Val	Arg	Thr	Tyr	Gly	Met	Leu	Tyr	Met	Gln	Asn	125	130	135
Ser	Glu	Val	Phe	Gln	Asp	Leu	Phe	Thr	Glu	Leu	Lys	Arg	Tyr	Tyr	140	145	150
Thr	Gly	Gly	Asn	Val	Asn	Leu	Glu	Glu	Met	Leu	Asn	Asp	Phe	Trp	155	160	165
Ala	Arg	Leu	Leu	Glu	Arg	Met	Phe	Gln	Leu	Ile	Asn	Pro	Gln	Tyr	170	175	180
His	Phe	Ser	Glu	Asp	Tyr	Leu	Glu	Cys	Val	Ser	Lys	Tyr	Thr	Asp	185	190	195
Gln	Leu	Lys	Pro	Phe	Gly	Asp	Val	Pro	Arg	Lys	Leu	Lys	Ile	Gln	200	205	210
Val	Thr	Arg	Ala	Phe	Ile	Ala	Ala	Arg	Thr	Phe	Val	Gln	Gly	Leu	215	220	225
Thr	Val	Gly	Arg	Glu	Val	Ala	Asn	Arg	Val	Ser	Lys	Val	Ser	Pro	230	235	240
Thr	Pro	Gly	Cys	Ile	Arg	Ala	Leu	Met	Lys	Met	Leu	Tyr	Cys	Pro	245	250	255
Tyr	Cys	Arg	Gly	Leu	Pro	Thr	Val	Arg	Pro	Cys	Asn	Asn	Tyr	Cys	260	265	270
Leu	Asn	Val	Met	Lys	Gly	Cys	Leu	Ala	Asn	Gln	Ala	Asp	Leu	Asp	275	280	285
Thr	Glu	Trp	Asn	Leu	Phe	Ile	Asp	Ala	Met	Leu	Leu	Val	Ala	Glu	290	295	300
Arg	Leu	Glu	Gly	Pro	Phe	Asn	Ile	Glu	Ser	Val	Met	Asp	Pro	Ile	305	310	315
Asp	Val	Lys	Ile	Ser	Glu	Ala	Ile	Met	Asn	Met	Gln	Glu	Asn	Ser	320	325	330
Met	Gln	Val	Ser	Ala	Lys	Val	Phe	Gln	Gly	Cys	Gly	Gln	Pro	Lys	335	340	345
Pro	Ala	Pro	Ala	Leu	Arg	Ser	Ala	Arg	Ser	Ala	Pro	Glu	Asn	Phe	350	355	360
Asn	Thr	Arg	Phe	Arg	Pro	Tyr	Asn	Pro	Glu	Glu	Arg	Pro	Thr	Thr			

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000

	365		370		375									
Ala	Ala	Gly	Thr	Ser	Leu	Asp	Arg	Leu	Val	Thr	Asp	Ile	Lys	Glu
				380					385					390
Lys	Leu	Lys	Leu	Ser	Lys	Lys	Val	Trp	Ser	Ala	Leu	Pro	Tyr	Thr
				395					400					405
Ile	Cys	Lys	Asp	Glu	Ser	Val	Thr	Ala	Gly	Thr	Ser	Asn	Glu	Glu
				410					415					420
Glu	Cys	Trp	Asn	Gly	His	Ser	Lys	Ala	Arg	Tyr	Leu	Pro	Glu	Ile
				425					430					435
Met	Asn	Asp	Gly	Leu	Thr	Asn	Gln	Ile	Asn	Asn	Pro	Glu	Val	Asp
				440					445					450
Val	Asp	Ile	Thr	Arg	Pro	Asp	Thr	Phe	Ile	Arg	Gln	Gln	Ile	Met
				455					460					465
Ala	Leu	Arg	Val	Met	Thr	Asn	Lys	Leu	Lys	Asn	Ala	Tyr	Asn	Gly
				470					475					480
Asn	Asp	Val	Asn	Phe	Gln	Asp	Thr	Ser	Asp	Glu	Ser	Ser	Gly	Ser
				485					490					495
Gly	Ser	Gly	Ser	Gly	Cys	Met	Asp	Asp	Val	Cys	Pro	Thr	Glu	Phe
				500					505					510
Glu	Phe	Val	Thr	Thr	Glu	Ala	Pro	Ala	Val	Asp	Pro	Asp	Arg	Arg
				515					520					525
Glu	Val	Asp	Ser	Ser	Ala	Ala	Gln	Arg	Gly	His	Ser	Leu	Leu	Ser
				530					535					540
Trp	Ser	Leu	Thr	Cys	Ile	Val	Leu	Ala	Leu	Gln	Arg	Leu	Cys	Arg
				545					550					555

<210> 110
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 110
 aagcgtgaca gcgggcacgt c 21

 <210> 111
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 111

tgacacagtct ctgcagtgcc cagg 24

<210> 112

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 112

gaatgctgga acgggcacag caaagccaga tacttgctg 40

<210> 113

<211> 4649

<212> DNA

<213> Homo sapiens

<400> 113

cggacgcgtg ggcgacgcg tgggcaaaag aactcggagt gccaaagcta 50
aataagttag ctgagaaaac gcacgcagtt tgcagcgcct gcgccgggtg 100
cgccaactac gcaaagacca agcgggctcc gcgcggaccg gccgcggggc 150
tagggacccg gctttggcct tcaggctccc tagcagcggg gaaaaggaat 200
tgctgcccgg agtttctgcg gaggtggagg gagatcagga aacggcttct 250
tcctcacttc gccgcctggt gagtgtcggg gagattggca aacgcctagg 300
aaaggactgg ggaaaatagc cctgggaaag tggagaaggt gatcaggagg 350
ccggtccact acggcagttt atctgtctga tcagagccag acgcgacgcg 400
tccacttcgc agttctttcc aggtgtgggg accgcaggac agaocggcca 450
tcccgccgcc ctccgtacca gcaactcccag gagagtcagc ctcgctcccc 500
aacgtcgagg gcgctctggc cacgaaaagt tcctgtccac tgtgattctc 550
aattccttgc ttggtttttt tctccagaga acttttgggt ggagatatta 600
acttttttct tttttttttt ctttgggtga agctgctcta gggagggggg 650
aggaggagga gaaagtgaat tgtgctggag aagagcgagc cctccttggt 700
cttccggagt cccatccatt aagccatcac ttctggaaga ttaaagttgt 750
cggacatggt gacagctgag aggagaggag gatctcttgc caggtggaga 800
gtcttcaccg tctgttgggt gcatgtgtgc gccgcgacgc gcgcggggcg 850
cgtggttctc cgcgtggagt ctcacctggg acctgagtga atggctccca 900
ggggctgtgc ggggcatccg cctccgcctt ctccacaggc ctgtgtctgt 950
cctggaaaga tgctagcaat gggggcgctg gcaggattct ggatcctctg 1000

cctcctcact	tatggttacc	tgtcctgggg	ccaggcctta	gaagaggagg	1050
aagaaggggc	cttactagct	caagctggag	agaaactaga	gcccagcaca	1100
acttccacct	cccagcccca	tctcattttc	atcctagcgg	atgatcaggg	1150
atntagagat	gtgggttacc	acggatctga	gattaaaaca	cctactcttg	1200
acaagctcgc	tgccgaagga	gttaaactgg	agaactacta	tgtccagcct	1250
atttgcacac	catccaggag	tcagtttatt	actggaaagt	atcagataca	1300
caccggactt	caacatttcta	tcataagacc	tacccaaccc	aactgtttac	1350
ctctggacaa	tgccacccta	cctcagaaac	tgaaggaggt	tggaatattca	1400
acgcatatgg	tcggaaaatg	gcacttgggt	tttaacagaa	aagaatgcat	1450
gccaccaga	agaggatttg	ataccttttt	tggttcctt	ttgggaagtg	1500
gggattacta	tacacactac	aaatgtgaca	gtcctgggat	gtgtggctat	1550
gacttgatatg	aaaacgacaa	tgctgcctgg	gactatgaca	atggcatata	1600
ctccacacag	atgtacactc	agagagtaca	gcaaatctta	gcttcccata	1650
accccacaaa	gcctatatatt	ttatatactg	cctatcaagc	tgttcattca	1700
ccactgcaag	ctcctggcag	gtatttcgaa	cactaccgat	ccattatcaa	1750
cataaacagg	agaagatatg	ctgccatgct	ttcctgctta	gatgaagcaa	1800
tcaacaacgt	gacattggct	ctaaagactt	atggtttcta	taacaacagc	1850
attatcattt	actcttcaga	taatgggtggc	cagcctacgg	caggagggag	1900
taactggcct	ctcagaggta	gcaaaggaac	atattgggaa	ggagggatcc	1950
gggctgtagg	ctttgtgcat	agcccacttc	tgaaaaacaa	gggaacagtg	2000
tgtaaggaac	ttgtgcacat	cactgactgg	taccccactc	tcattttcact	2050
ggctgaagga	cagattgatg	aggacattca	actagatggc	tatgatatct	2100
gggagaccat	aagtgagggg	cttcgctcac	cccagagtaga	tattttgcat	2150
aacattgacc	cctatacacc	aaggcaaaaa	atggctcctg	ggcagcaggc	2200
tatgggatct	ggaacactgc	aatccagtca	gccatcagag	tgcagcactg	2250
gaaattgctt	acaggaaatc	ctggctacag	cgactgggtc	ccccctcagt	2300
ctttcagcaa	cctgggaccg	aaccggtggc	acaatgaacg	gatcaccttg	2350
tcaactggca	aaagtgtatg	gcttttcaac	atcacagccg	acccatatga	2400
gaggggtggac	ctatctaaca	ggtatccagg	aatcgtgaag	aagctcctac	2450

ggaggctctc acagttcaac aaaactgcag tgccgggtcag gtatcccccc 2500
 aaagacccca gaagtaaccc taggctcaat ggaggggtct ggggaccatg 2550
 gtataaagag gaaaccaaga aaaagaagcc aagcaaaaat caggctgaga 2600
 aaaagcaaaa gaaaagcaaa aaaaagaaga agaaacagca gaaagcagtc 2650
 tcaggtaaac cagcaaattt ggctcgataa tatcgctggc ctaagcgtca 2700
 ggcttgTTTT catgctgtgc cactccagag acttctgcca cctggccgcc 2750
 aactgaaaa ctgtcctgct cagtgccaa gtgctactct tgcaagccac 2800
 acttagagag agtggagatg tttatttctc tcgctccttt agaaaacgtg 2850
 gtgagtcctg agttccactg ctgtgcttca gtcaactgac caaacactgc 2900
 tttgaattat aggaggagaa caataacctt ccatccgcaa gcatgctaata 2950
 ttgatggaag ttacagggtg gcatgattaa aactaccttt gataaattac 3000
 agtcaaagat tgtgtcacct caaaggcctt gaagaatata ttttcttggt 3050
 gaatttttgt atgtctgtca tatgacactt gggTTTTTTT attaatctta 3100
 ttttatatat ataaatatat gtttcttttc ctgtgaaaag ctgtttttct 3150
 cacatgtgaa cagcttgcac ctcatTTTtac catgcgtgag ggaatggcaa 3200
 ataagaatgt ttgagcacac tgcccacaat gaatgtaact attttctaaa 3250
 cactttacta gaagaacatt tcagtataaa aaacctaat tatttttaca 3300
 gaaaaatatt ttgttgTTTT tataaaaagt tatgcaaag acttttattt 3350
 ttatttctct cataccatta gaagaatttt atttcatttc ttcaaattat 3400
 caagcactgt aatactataa attaatgtaa tactgtgtga attcagacta 3450
 taaaaaacat cattcagaaa actttataat cgtcattggt caatcaagat 3500
 tttgaatgta ataagatgaa tatattcctt acaaattact tggaaattca 3550
 atgtttgtgc agagttgaga caactttatt gtttctatca taaactattt 3600
 atgtatctta attattaaaa tgatttactt tatggcacta gaaaatttac 3650
 tgtggctttt ctgatctaac ttctagctaa aattgtatca ttggtcctaa 3700
 aaaataaaaa tctttactaa taggcaattg aaggaatggt ttgctaacaa 3750
 ccacagtaat ataatatgat ttacagata gatgcttccc cttggctatg 3800
 acatggagaa agattttccc ataataataa ctaatatTTa tattagggtg 3850
 gtgcaaaact agttgcggtt tttccatta aaagtaataa ccttactctt 3900

atacaaagtg gacactgtgg ggagatacag agaaatggaa gatacggatc 3950
 ctgcctggag taggtaacct tgcttggaaa ccccatatgc aaacgtcatg 4000
 aggagaatta aaggagtatt atcagtaatg aagtttatca tgggtcatca 4050
 atgagcatag attggtgtgg atcctgtaga ccctggtggtt ttctttgaag 4100
 tgccctctcc taatgcagag gccttgaagc ttacagtata cacttgaaaa 4150
 gtcacagata gctagaatta tgatctttga agttataact gtgatctgaa 4200
 aatgtgtgtg gtggtatgac agcataccat taaatacatt tacatcacag 4250
 ctcaaaggac tgtgatataa tccatttata tcacaactca aaggactgtg 4300
 atataatcca tttatatcac agctcacagt ttctgaaaat gtataaaaga 4350
 atctataatc tagtactgaa attactaaat tgggtaagat gattttaatg 4400
 attttaattt taacatttta tttctagaat atatggctcc attttatttt 4450
 atagtgtaaa gttgtatttc ctaaagtttg tgttttgtcg acagtatctt 4500
 ttaaattgagt cttaaaaata aaggcatatt gttcatgttt aaaaaaaaaa 4550
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 4600
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 4649

<210> 114
 <211> 515
 <212> PRT
 <213> Homo sapiens

<400> 114
 Met Ala Pro Arg Gly Cys Ala Gly His Pro Pro Pro Pro Ser Pro
 1 5 10 15
 Gln Ala Cys Val Cys Pro Gly Lys Met Leu Ala Met Gly Ala Leu
 20 25 30
 Ala Gly Phe Trp Ile Leu Cys Leu Leu Thr Tyr Gly Tyr Leu Ser
 35 40 45
 Trp Gly Gln Ala Leu Glu Glu Glu Glu Glu Gly Ala Leu Leu Ala
 50 55 60
 Gln Ala Gly Glu Lys Leu Glu Pro Ser Thr Thr Ser Thr Ser Gln
 65 70 75
 Pro His Leu Ile Phe Ile Leu Ala Asp Asp Gln Gly Phe Arg Asp
 80 85 90
 Val Gly Tyr His Gly Ser Glu Ile Lys Thr Pro Thr Leu Asp Lys
 95 100 105
 Leu Ala Ala Glu Gly Val Lys Leu Glu Asn Tyr Tyr Val Gln Pro

110	115	120
Ile Cys Thr Pro Ser Arg Ser Gln Phe	Ile Thr Gly Lys Tyr Gln	
125	130	135
Ile His Thr Gly Leu Gln His Ser Ile	Ile Arg Pro Thr Gln Pro	
140	145	150
Asn Cys Leu Pro Leu Asp Asn Ala Thr	Leu Pro Gln Lys Leu Lys	
155	160	165
Glu Val Gly Tyr Ser Thr His Met Val	Gly Lys Trp His Leu Gly	
170	175	180
Phe Asn Arg Lys Glu Cys Met Pro Thr	Arg Arg Gly Phe Asp Thr	
185	190	195
Phe Phe Gly Ser Leu Leu Gly Ser Gly	Asp Tyr Tyr Thr His Tyr	
200	205	210
Lys Cys Asp Ser Pro Gly Met Cys Gly	Tyr Asp Leu Tyr Glu Asn	
215	220	225
Asp Asn Ala Ala Trp Asp Tyr Asp Asn	Gly Ile Tyr Ser Thr Gln	
230	235	240
Met Tyr Thr Gln Arg Val Gln Gln Ile	Leu Ala Ser His Asn Pro	
245	250	255
Thr Lys Pro Ile Phe Leu Tyr Thr Ala	Tyr Gln Ala Val His Ser	
260	265	270
Pro Leu Gln Ala Pro Gly Arg Tyr Phe	Glu His Tyr Arg Ser Ile	
275	280	285
Ile Asn Ile Asn Arg Arg Arg Tyr Ala	Ala Met Leu Ser Cys Leu	
290	295	300
Asp Glu Ala Ile Asn Asn Val Thr Leu	Ala Leu Lys Thr Tyr Gly	
305	310	315
Phe Tyr Asn Asn Ser Ile Ile Ile Tyr	Ser Ser Asp Asn Gly Gly	
320	325	330
Gln Pro Thr Ala Gly Gly Ser Asn Trp	Pro Leu Arg Gly Ser Lys	
335	340	345
Gly Thr Tyr Trp Glu Gly Gly Ile Arg	Ala Val Gly Phe Val His	
350	355	360
Ser Pro Leu Leu Lys Asn Lys Gly Thr	Val Cys Lys Glu Leu Val	
365	370	375
His Ile Thr Asp Trp Tyr Pro Thr Leu	Ile Ser Leu Ala Glu Gly	
380	385	390
Gln Ile Asp Glu Asp Ile Gln Leu Asp	Gly Tyr Asp Ile Trp Glu	
395	400	405

Thr	Ile	Ser	Glu	Gly	Leu	Arg	Ser	Pro	Arg	Val	Asp	Ile	Leu	His
				410					415					420
Asn	Ile	Asp	Pro	Tyr	Thr	Pro	Arg	Gln	Lys	Met	Ala	Pro	Gly	Gln
				425					430					435
Gln	Ala	Met	Gly	Ser	Gly	Thr	Leu	Gln	Ser	Ser	Gln	Pro	Ser	Glu
				440					445					450
Cys	Ser	Thr	Gly	Asn	Cys	Leu	Gln	Glu	Ile	Leu	Ala	Thr	Ala	Thr
				455					460					465
Gly	Ser	Pro	Leu	Ser	Leu	Ser	Ala	Thr	Trp	Asp	Arg	Thr	Gly	Gly
				470					475					480
Thr	Met	Asn	Gly	Ser	Pro	Cys	Gln	Leu	Ala	Lys	Val	Tyr	Gly	Phe
				485					490					495
Ser	Thr	Ser	Gln	Pro	Thr	His	Met	Arg	Gly	Trp	Thr	Tyr	Leu	Thr
				500					505					510
Gly	Ile	Gln	Glu	Ser										
				515										

<210> 115
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 115
 cccaacccaa ctgtttacct ctgg 24

<210> 116
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 116
 ctctctgagt gtacatctgt gtgg 24

<210> 117
 <211> 53
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<220>
 <221> unsure
 <222> 33
 <223> unknown base

<400> 117
gccaccctac ctcagaaaact gaaggagggtt ggntattcaa cgcatatggt 50
cgg 53

<210> 118
<211> 2260
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> 2009, 2026, 2033, 2055, 2074, 2078, 2086
<223> unknown base

<400> 118
cggacgcgtg ggtgcgagtg gagcggagga cccgagcggc tgaggagaga 50
ggaggcggcg gcttagctgc tacgggggtcc ggccggcgcc ctcccagggg 100
gggctcagga ggaggaagga ggacccgtgc gagaatgcct ctgccctgga 150
gccttgcgct cccgctgctg ctctcctggg tggcaggtgg ttccgggaac 200
gcggccagtg caaggcatca cgggttggtta gcatcggcac gtcagcctgg 250
ggtctgtcac tatggaacta aactggcctg ctgctacggc tggagaagaa 300
acagcaaggg agtctgtgaa gctacatgcg aacctggatg taagtttggt 350
gagtgcgtgg gaccaaaca atgcagatgc ttccaggat acaccgggaa 400
aacctgcagt caagatgtga atgagtggtg aatgaaaccc cggccatgcc 450
aacacagatg tgtgaataca cacggaagct acaagtgctt ttgcctcagt 500
ggccacatgc tcatgccaga tgctacgtgt gtgaactcta ggacatgtgc 550
catgataaac tgtcagtaca gctgtgaaga cacagaagaa gggccacagt 600
gcctgtgtcc atcctcagga ctccgcctgg ccccaaattg aagagactgt 650
ctagatattg atgaatgtgc ctctggtaaa gtcattctgc cctacaatcg 700
aagatgtgtg aacacatttg gaagctacta ctgcaaattg cacattgggt 750
tcgaactgca atatatcagt ggacgatatg actgtataga tataaatgaa 800
tgtactatgg atagccatac gtgcagccac catgcccaatt gcttcaatac 850
ccaaggggtcc ttcaagtgtg aatgcaagca gggatataaa ggcaatggac 900
ttcgggtgtc tgctatccct gaaaattctg tgaaggaagt cctcagagca 950
cctggtacca tcaaagacag aatcaagaag ttgcttgctc aaaaaaacag 1000
catgaaaaag aaggcaaaaa ttaaaaatgt taccacagaa cccaccagga 1050

ctcctacccc taaggtgaac ttgcagccct tcaactatga agagatagtt 1100
tccagaggcg ggaactctca tggaggtaaa aaagggaatg aagagaaatg 1150
aaagaggggc ttgaggatga gaaaagagaa gagaaagccc tgaagaatga 1200
catagaggag cgaagcctgc gaggagatgt gtttttccct aaggtgaatg 1250
aagcaggtga attcggcctg attctggtcc aaaggaaagc gctaacttcc 1300
aaactggaac ataaagattt aaatatctcg gttgactgca gcttcaatca 1350
tgggatctgt gactggaaac aggatagaga agatgatttt gactggaatc 1400
ctgctgatcg agataatgct attggcttct atatggcagt tccggccttg 1450
gcaggtcaca agaaagacat tggccgattg aaacttctcc tacctgacct 1500
gcaaccccaa agcaacttct gtttgctctt tgattaccgg ctggccggag 1550
acaaagtcgg gaaacttcga gtgtttgtga aaaacagtaa caatgccctg 1600
gcatgggaga agaccacgag tgaggatgaa aagtggaaga cagggaatat 1650
tcagttgtat caaggaactg atgctaccaa aagcatcatt tttgaagcag 1700
aacgtggcaa gggcaaaacc ggcgaaatcg cagtggatgg cgtcttgctt 1750
gtttcaggct tatgtccaga tagcctttta tctgtggatg actgaatggt 1800
actatcttta tatttgactt tgtatgtcag ttccctgggt tttttgatat 1850
tgcatcatag gacctctggc attttagaat tactagctga aaaattgtaa 1900
tgtaccaaca gaaatattat tgtaagatgc ctttcttgta taagatatgc 1950
caatatttgc tttaaatatc atatcaactgt atcttctcag tcatttctga 2000
atctttccnc attatattat aaaatntgga aangtcagtt tatctcccct 2050
cctcngtata tctgatttgt atangtangt tgatgngctt ctctctacaa 2100
catttctaga aaatagaaaa aaaagcacag agaaatgttt aactgtttga 2150
ctcttatgat acttcttgga aactatgaca tcaaagatag acttttgcct 2200
aagtggctta gctgggtctt tcatagccaa acttgatat ttaattcttt 2250
gtaataataa 2260

<210> 119
<211> 338
<212> PRT
<213> Homo sapiens

<400> 119
Met Pro Leu Pro Trp Ser Leu Ala Leu Pro Leu Leu Leu Ser Trp
1 5 10 15

Val	Ala	Gly	Gly	Phe	Gly	Asn	Ala	Ala	Ser	Ala	Arg	His	His	Gly	20	25	30
Leu	Leu	Ala	Ser	Ala	Arg	Gln	Pro	Gly	Val	Cys	His	Tyr	Gly	Thr	35	40	45
Lys	Leu	Ala	Cys	Cys	Tyr	Gly	Trp	Arg	Arg	Asn	Ser	Lys	Gly	Val	50	55	60
Cys	Glu	Ala	Thr	Cys	Glu	Pro	Gly	Cys	Lys	Phe	Gly	Glu	Cys	Val	65	70	75
Gly	Pro	Asn	Lys	Cys	Arg	Cys	Phe	Pro	Gly	Tyr	Thr	Gly	Lys	Thr	80	85	90
Cys	Ser	Gln	Asp	Val	Asn	Glu	Cys	Gly	Met	Lys	Pro	Arg	Pro	Cys	95	100	105
Gln	His	Arg	Cys	Val	Asn	Thr	His	Gly	Ser	Tyr	Lys	Cys	Phe	Cys	110	115	120
Leu	Ser	Gly	His	Met	Leu	Met	Pro	Asp	Ala	Thr	Cys	Val	Asn	Ser	125	130	135
Arg	Thr	Cys	Ala	Met	Ile	Asn	Cys	Gln	Tyr	Ser	Cys	Glu	Asp	Thr	140	145	150
Glu	Glu	Gly	Pro	Gln	Cys	Leu	Cys	Pro	Ser	Ser	Gly	Leu	Arg	Leu	155	160	165
Ala	Pro	Asn	Gly	Arg	Asp	Cys	Leu	Asp	Ile	Asp	Glu	Cys	Ala	Ser	170	175	180
Gly	Lys	Val	Ile	Cys	Pro	Tyr	Asn	Arg	Arg	Cys	Val	Asn	Thr	Phe	185	190	195
Gly	Ser	Tyr	Tyr	Cys	Lys	Cys	His	Ile	Gly	Phe	Glu	Leu	Gln	Tyr	200	205	210
Ile	Ser	Gly	Arg	Tyr	Asp	Cys	Ile	Asp	Ile	Asn	Glu	Cys	Thr	Met	215	220	225
Asp	Ser	His	Thr	Cys	Ser	His	His	Ala	Asn	Cys	Phe	Asn	Thr	Gln	230	235	240
Gly	Ser	Phe	Lys	Cys	Lys	Cys	Lys	Gln	Gly	Tyr	Lys	Gly	Asn	Gly	245	250	255
Leu	Arg	Cys	Ser	Ala	Ile	Pro	Glu	Asn	Ser	Val	Lys	Glu	Val	Leu	260	265	270
Arg	Ala	Pro	Gly	Thr	Ile	Lys	Asp	Arg	Ile	Lys	Lys	Leu	Leu	Ala	275	280	285
His	Lys	Asn	Ser	Met	Lys	Lys	Lys	Ala	Lys	Ile	Lys	Asn	Val	Thr	290	295	300
Pro	Glu	Pro	Thr	Arg	Thr	Pro	Thr	Pro	Lys	Val	Asn	Leu	Gln	Pro			

305

310

315

Phe Asn Tyr Glu Glu Ile Val Ser Arg Gly Gly Asn Ser His Gly
 320 325 330

Gly Lys Lys Gly Asn Glu Glu Lys
 335

<210> 120

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 120

cctcagtggc cacatgctca tg 22

<210> 121

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 121

ggctgcacgt atggctatcc atag 24

<210> 122

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 122

gataaactgt cagtacagct gtgaagacac agaagaagg ccacagtgcc 50

<210> 123

<211> 1199

<212> DNA

<213> Homo sapiens

<400> 123

gggagctgct gctgtggctg ctggtgctgt gcgcgctgct cctgctcttg 50

gtgcagctgc tgcgcttcct gagggctgac ggcgacctga cgctactatg 100

ggccgagtgg cagggacgac gcccagaatg ggagctgact gatatggtgg 150

tgtgggtgac tggagcctcg agtgggaattg gtgaggagct ggcttaccag 200

ttgtctaaac taggagtttc tcttgtgctg tcagccagaa gagtgcata 250

gctggaaagg gtgaaaagaa gatgcctaga gaatggcaat ttaaaagaaa 300

aagatatact tgttttggccc cttgacctga cgcacactgg ttcccatgaa 350
gcggctacca aagctgttct ccaggagttt ggtagaatcg acattctggt 400
caacaatggt ggaatgtccc agcgttctct gtgcatggat accagcttgg 450
atgtctacag aaagctaata gagcttaact acttagggac ggtgtccttg 500
acaaaatgtg ttctgcctca catgatcgag aggaagcaag gaaagattgt 550
tactgtgaat agcatcctgg gtatcatatc tgtacctctt tccattggat 600
actgtgctag caagcatgct ctccgggggtt tttttaatgg ccttcgaaca 650
gaacttgcca catacccagg tataatagtt tctaacattt gcccaggacc 700
tgtgcaatca aatattgtgg agaattccct agctggagaa gtcacaaaga 750
ctataggcaa taatggagac cagtcccaca agatgacaac cagtctgtgt 800
gtgcggctga tgttaatcag catggccaat gatttgaaag aagtttggat 850
ctcagaacaa cctttcttgt tagtaacata tttgtggcaa tacatgcca 900
cctgggcctg gtggataacc aacaagatgg ggaagaaaag gattgagaac 950
tttaagagtg gtgtggatgc agactcttct tattttaaaa tctttaagac 1000
aaaacatgac tgaaaagagc acctgtactt ttcaagccac tggagggaga 1050
aatggaaaac atgaaaacag caatcttctt atgcttctga ataataaag 1100
actaatttgt gattttactt tttaatagat atgactttgc ttccaacatg 1150
gaatgaaata aaaaataaat aataaaagat tgccatgaat cttgcaaaa 1199

<210> 124

<211> 289

<212> PRT

<213> Homo sapiens

<400> 124

Met	Val	Val	Trp	Val	Thr	Gly	Ala	Ser	Ser	Gly	Ile	Gly	Glu	Glu
1				5					10					15

Leu	Ala	Tyr	Gln	Leu	Ser	Lys	Leu	Gly	Val	Ser	Leu	Val	Leu	Ser
			20						25					30

Ala	Arg	Arg	Val	His	Glu	Leu	Glu	Arg	Val	Lys	Arg	Arg	Cys	Leu
			35						40					45

Glu	Asn	Gly	Asn	Leu	Lys	Glu	Lys	Asp	Ile	Leu	Val	Leu	Pro	Leu
			50						55					60

Asp	Leu	Thr	Asp	Thr	Gly	Ser	His	Glu	Ala	Ala	Thr	Lys	Ala	Val
			65						70					75

Leu	Gln	Glu	Phe	Gly	Arg	Ile	Asp	Ile	Leu	Val	Asn	Asn	Gly	Gly
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

	80	85	90
Met Ser Gln Arg Ser	Leu Cys Met Asp Thr	Ser Leu Asp Val Tyr	
	95	100	105
Arg Lys Leu Ile Glu	Leu Asn Tyr Leu Gly	Thr Val Ser Leu Thr	
	110	115	120
Lys Cys Val Leu Pro	His Met Ile Glu Arg	Lys Gln Gly Lys Ile	
	125	130	135
Val Thr Val Asn Ser	Ile Leu Gly Ile Ile	Ser Val Pro Leu Ser	
	140	145	150
Ile Gly Tyr Cys Ala	Ser Lys His Ala Leu	Arg Gly Phe Phe Asn	
	155	160	165
Gly Leu Arg Thr Glu	Leu Ala Thr Tyr Pro	Gly Ile Ile Val Ser	
	170	175	180
Asn Ile Cys Pro Gly	Pro Val Gln Ser Asn	Ile Val Glu Asn Ser	
	185	190	195
Leu Ala Gly Glu Val	Thr Lys Thr Ile Gly	Asn Asn Gly Asp Gln	
	200	205	210
Ser His Lys Met Thr	Thr Ser Arg Cys Val	Arg Leu Met Leu Ile	
	215	220	225
Ser Met Ala Asn Asp	Leu Lys Glu Val Trp	Ile Ser Glu Gln Pro	
	230	235	240
Phe Leu Leu Val Thr	Tyr Leu Trp Gln Tyr	Met Pro Thr Trp Ala	
	245	250	255
Trp Trp Ile Thr Asn	Lys Met Gly Lys Lys	Arg Ile Glu Asn Phe	
	260	265	270
Lys Ser Gly Val Asp	Ala Asp Ser Ser Tyr	Phe Lys Ile Phe Lys	
	275	280	285
Thr Lys His Asp			

<210> 125

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 125

gcaatgaact gggagctgc 19

<210> 126

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 126

ctgtgaatag catcctggg 19

<210> 127

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 127

cttttcaagc cactggaggg 20

<210> 128

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 128

ctgtagacat ccaagctggt atcc 24

<210> 129

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 129

aagagtctgc atccacacca ctc 23

<210> 130

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 130

acctgacgct actatgggcc gagtggcagg gacgacgccc agaattg 46

<210> 131

<211> 2365

<212> DNA

<213> Homo sapiens

<400> 131

gcgacgtggg caccgccatc agctgttgcg gcgtcttctc ctccaggtgg 50
 ggcaggggtt tcgggctggt ggagcatgtg ctgggacagg acagcatcct 100
 caatcaatcc aacagcatat tcggttgcat cttctacaca ctacagctat 150
 tgttaggttg cctgcggaca cgctgggcct ctgtcctgat gctgctgagc 200
 tccctggtgt ctctcgctgg ttctgtctac ctggcctgga tcctgttctt 250
 cgtgctctat gatttctgca ttgtttgtat caccacctat gctatcaacg 300
 tgagcctgat gtggctcagt ttccggaagg tccaagaacc ccagggcaag 350
 gctaagagggc actgagccct caaccaagc caggctgacc tcctctgctt 400
 tgctttggtc ttcaagccgc tcagcgtgcc tgtggacagc gtggccccgg 450
 ccccccaag cctcaggagg gcaacacagt ccctggcgag tggccctggc 500
 aggccagtgt gaggaggcaa ggagcccaca tctgcagcgg ctccctggtg 550
 gcagacacct gggtcctcac tgctgccac tgctttgaaa aggcagcagc 600
 aacagaactg aattcctggt cagtggctcct gggttctctg cagcgtgagg 650
 gactcagccc tggggccgaa gagtgggggg tggctgccct gcagttgccc 700
 agggcctata accactacag ccagggtca gacctggccc tgctgcagct 750
 cgcccacccc acgaccaca caccctctg cctgccccag cccgccatc 800
 gcttccccct tggagcctcc tgctgggcca ctggctggga tcaggacacc 850
 agtgatgctc ctgggaccct acgcaatctg cgctgcgtc tcctcagtcg 900
 ccccatgt aactgtatct acaaccagct gcaccagcga cacctgtcca 950
 acccgggccg gcctgggatg ctatgtgggg gccccagcc tggggtgcag 1000
 ggccctgtc agggagattc cggggggcct gtgctgtgcc tcgagcctga 1050
 cggacactgg gttcaggctg gcatcatcag ctttgcata agctgtgccc 1100
 aggaggacgc tcctgtgctg ctgaccaaca cagctgctca cagttcctgg 1150
 ctgcaggctc gagttcaggg ggcagctttc ctggcccaga gccagagac 1200
 cccggagatg agtgatgagg acagctgtgt agcctgtgga tccttgagga 1250
 cagcaggtcc ccaggcagga gcaccctccc catggccctg ggaggccagg 1300
 ctgatgcacc agggacagct ggcctgtggc ggagccctgg tgtcagagga 1350
 ggcggtgcta actgctgccc actgcttcat tgggcgccag gccccagagg 1400
 aatggagcgt agggctgggg accagaccgg aggagtgggg cctgaagcag 1450

ctcactctgc atggagccta caccacacct gaggggggct acgacatggc 1500
cctcctgctg ctggcccagc ctgtgacact gggagccagc ctgcggcccc 1550
tctgcctgcc ctatcctgac caccacctgc ctgatgggga gcgtggctgg 1600
gttctgggac gggcccgcgc aggagcaggc atcagctccc tccagacagt 1650
gcccgtgacc ctctggggc ctagggcctg cagccggctg catgcagctc 1700
ctgggggtga tggcagccct attctgccgg ggatgggtgtg taccagtgt 1750
gtgggtgagc tgcccagctg tgagggcctg tctggggcac cactggtgca 1800
tgaggtgagg ggcacatggt tcctggcccg gctgcacagc ttcggagatg 1850
cttgccaagg ccccgccagg ccggcggtct tcaccgogct ccctgcctat 1900
gaggactggg tcagcagttt ggactggcag gtctacttcg ccgaggaacc 1950
agagcccag gctgagcctg gaagctgcct ggccaacata agccaaccaa 2000
ccagctgctg acaggggacc tggccattct caggacaaga gaatgcaggc 2050
aggcaaatgg cattactgcc cctgtcctcc ccaccctgtc atgtgtgatt 2100
ccaggcacca gggcaggccc agaagcccag cagctgtggg aaggaacctg 2150
cctggggcca caggtgcccc ctccccaccc tgcaggacag ggggtgtctgt 2200
ggacactccc acacccaact ctgctaccaa gcaggcgtct cagctttcct 2250
cctcctttac tctttcagat acaatcacgc cagccacgtt gttttgaaaa 2300
tttctttttt tggggggcag cagttttcct ttttttaaac ttaaataaat 2350
tgttacaaaa taaaa 2365

<210> 132

<211> 571

<212> PRT

<213> Homo sapiens

<400> 132

Met	Leu	Leu	Ser	Ser	Leu	Val	Ser	Leu	Ala	Gly	Ser	Val	Tyr	Leu
1				5					10					15

Ala	Trp	Ile	Leu	Phe	Phe	Val	Leu	Tyr	Asp	Phe	Cys	Ile	Val	Cys
			20						25					30

Ile	Thr	Thr	Tyr	Ala	Ile	Asn	Val	Ser	Leu	Met	Trp	Leu	Ser	Phe
			35						40					45

Arg	Lys	Val	Gln	Glu	Pro	Gln	Gly	Lys	Ala	Lys	Arg	His	Gly	Asn
			50						55					60

Thr	Val	Pro	Gly	Glu	Trp	Pro	Trp	Gln	Ala	Ser	Val	Arg	Arg	Gln
			65						70					75

Gly	Ala	His	Ile	Cys	Ser	Gly	Ser	Leu	Val	Ala	Asp	Thr	Trp	Val	80	85	90
Leu	Thr	Ala	Ala	His	Cys	Phe	Glu	Lys	Ala	Ala	Ala	Thr	Glu	Leu	95	100	105
Asn	Ser	Trp	Ser	Val	Val	Leu	Gly	Ser	Leu	Gln	Arg	Glu	Gly	Leu	110	115	120
Ser	Pro	Gly	Ala	Glu	Glu	Val	Gly	Val	Ala	Ala	Leu	Gln	Leu	Pro	125	130	135
Arg	Ala	Tyr	Asn	His	Tyr	Ser	Gln	Gly	Ser	Asp	Leu	Ala	Leu	Leu	140	145	150
Gln	Leu	Ala	His	Pro	Thr	Thr	His	Thr	Pro	Leu	Cys	Leu	Pro	Gln	155	160	165
Pro	Ala	His	Arg	Phe	Pro	Phe	Gly	Ala	Ser	Cys	Trp	Ala	Thr	Gly	170	175	180
Trp	Asp	Gln	Asp	Thr	Ser	Asp	Ala	Pro	Gly	Thr	Leu	Arg	Asn	Leu	185	190	195
Arg	Leu	Arg	Leu	Ile	Ser	Arg	Pro	Thr	Cys	Asn	Cys	Ile	Tyr	Asn	200	205	210
Gln	Leu	His	Gln	Arg	His	Leu	Ser	Asn	Pro	Ala	Arg	Pro	Gly	Met	215	220	225
Leu	Cys	Gly	Gly	Pro	Gln	Pro	Gly	Val	Gln	Gly	Pro	Cys	Gln	Gly	230	235	240
Asp	Ser	Gly	Gly	Pro	Val	Leu	Cys	Leu	Glu	Pro	Asp	Gly	His	Trp	245	250	255
Val	Gln	Ala	Gly	Ile	Ile	Ser	Phe	Ala	Ser	Ser	Cys	Ala	Gln	Glu	260	265	270
Asp	Ala	Pro	Val	Leu	Leu	Thr	Asn	Thr	Ala	Ala	His	Ser	Ser	Trp	275	280	285
Leu	Gln	Ala	Arg	Val	Gln	Gly	Ala	Ala	Phe	Leu	Ala	Gln	Ser	Pro	290	295	300
Glu	Thr	Pro	Glu	Met	Ser	Asp	Glu	Asp	Ser	Cys	Val	Ala	Cys	Gly	305	310	315
Ser	Leu	Arg	Thr	Ala	Gly	Pro	Gln	Ala	Gly	Ala	Pro	Ser	Pro	Trp	320	325	330
Pro	Trp	Glu	Ala	Arg	Leu	Met	His	Gln	Gly	Gln	Leu	Ala	Cys	Gly	335	340	345
Gly	Ala	Leu	Val	Ser	Glu	Glu	Ala	Val	Leu	Thr	Ala	Ala	His	Cys	350	355	360
Phe	Ile	Gly	Arg	Gln	Ala	Pro	Glu	Glu	Trp	Ser	Val	Gly	Leu	Gly			

	365		370		375
Thr Arg Pro Glu	Glu Trp Gly Leu Lys	Gln Leu Ile Leu His	Gly		
	380	385	390		
Ala Tyr Thr His	Pro Glu Gly Gly Tyr	Asp Met Ala Leu Leu	Leu		
	395	400	405		
Leu Ala Gln Pro	Val Thr Leu Gly Ala	Ser Leu Arg Pro Leu	Cys		
	410	415	420		
Leu Pro Tyr Pro	Asp His His Leu Pro	Asp Gly Glu Arg Gly	Trp		
	425	430	435		
Val Leu Gly Arg	Ala Arg Pro Gly Ala	Gly Ile Ser Ser Leu	Gln		
	440	445	450		
Thr Val Pro Val	Thr Leu Leu Gly Pro	Arg Ala Cys Ser Arg	Leu		
	455	460	465		
His Ala Ala Pro	Gly Gly Asp Gly Ser	Pro Ile Leu Pro Gly	Met		
	470	475	480		
Val Cys Thr Ser	Ala Val Gly Glu Leu	Pro Ser Cys Glu Gly	Leu		
	485	490	495		
Ser Gly Ala Pro	Leu Val His Glu Val	Arg Gly Thr Trp Phe	Leu		
	500	505	510		
Ala Gly Leu His	Ser Phe Gly Asp Ala	Cys Gln Gly Pro Ala	Arg		
	515	520	525		
Pro Ala Val Phe	Thr Ala Leu Pro Ala	Tyr Glu Asp Trp Val	Ser		
	530	535	540		
Ser Leu Asp Trp	Gln Val Tyr Phe Ala	Glu Glu Pro Glu Pro	Glu		
	545	550	555		
Ala Glu Pro Gly	Ser Cys Leu Ala Asn	Ile Ser Gln Pro Thr	Ser		
	560	565	570		

Cys

<210> 133

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 133

cctgtgctgt gcctcgagcc tgac 24

<210> 134

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 134

gtgggcagca gtttagcaccg cctc 24

<210> 135

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 135

ggctggcatc atcagctttg catcaagctg tgcccaggag gacgc 45

<210> 136

<211> 1998

<212> DNA

<213> Homo sapiens

<400> 136

cgggccgccc cgggccccca ttcgggccgg gcctcgctgc ggcggcgact 50

gagccaggct gggccgcgtc cctgagtccc agagtcggcg cggcgcggca 100

ggggcagcct tccaccacgg ggagcccagc tgtcagccgc ctcacaggaa 150

gatgctgcgt cggcggggca gccctggcat ggggtgtcat gtgggtgcag 200

ccctgggagc actgtggttc tgcctcacag gagccctgga ggtccaggtc 250

cctgaagacc cagtgggtggc actggtgggc accgatgcca ccctgtgctg 300

ctccttctcc cctgagcctg gcttcagcct ggcacagctc aacctcatct 350

ggcagctgac agatacaaaa cagctggtgc acagctttgc tgagggccag 400

gaccagggca ggcctatgc caaccgcacg gccctcttcc cggacctgct 450

ggcacagggc aacgcatccc tgaggctgca ggcgtgctgt gtggcggacg 500

agggcagctt cacctgcttc gtgagcatcc gggatttcgg cagcgtgcc 550

gtcagcctgc aggtggccgc tccctactcg aagcccagca tgaccctgga 600

gccaacaag gacctgcggc caggggacac ggtgaccatc acgtgctcca 650

gctaccaggg ctaccctgag gctgaggtgt tctggcagga tgggcagggt 700

gtgcccctga ctggcaacgt gaccacgtcg cagatggcca acgagcaggg 750

cttgtttgat gtgcacagcg tcctgcgggt ggtgctgggt gcgaatggca 800

cctacagctg cctggtgcgc aaccccgtgc tgcagcagga tgcgcacrgc 850

tctgtcacca tcacagggca gcctatgaca ttccccccag aggccctgtg 900
ggtgaccgtg gggctgtctg tctgtctcat tgcactgctg gtggccctgg 950
ctttcgtgtg ctggagaaaag atcaaacaga gctgtgagga ggagaatgca 1000
ggagctgagg accaggatgg ggagggagaa ggctccaaga cagccctgca 1050
gcctctgaaa cactctgaca gcaaagaaga tgatggacaa gaaatagcct 1100
gaccatgagg accagggagc tgctaccctt ccctacagct cctaccctct 1150
ggctgcaatg gggctgcact gtgagccctg cccccaacag atgcatcctg 1200
ctctgacagg tgggctcctt ctccaaagga tgcgatacac agaccactgt 1250
gcagccttat ttctccaatg gacatgattc ccaagtcata ctgctgcctt 1300
ttttcttata gacacaatga acagaccacc cacaacctta gttctctaag 1350
tcatacctgcc tgctgcctta tttcacagta catacatttc ttagggacac 1400
agtacactga ccacatcacc accctcttct tccagtgtg ctgggacat 1450
ctggctgcct tttttctcca aaagatgcaa tattcagact gactgacccc 1500
ctgccttatt tcaccaaaga cagatgcat agtcaccccg gccttgtttc 1550
tccaatggcc gtgatacact agtgatcatg ttcagccctg cttccacctg 1600
catagaatct tttcttctca gacagggaca gtgcggcctc aacatctcct 1650
ggagtctaga agctgtttcc tttccctcc ttctccctg ccccaagtga 1700
agacagggca gggccaggaa tgctttgggg acaccgaggg gactgcccc 1750
cacccccacc atggtgctat tctggggctg gggcagtctt ttctgggctt 1800
gcctctggcc agctcctggc ctctggtaga gtgagacttc agacgttctg 1850
atgccttccg gatgtcatct ctccctgccc caggaatgga agatgtgagg 1900
acttctaatt taaatgtggg actcggaggg attttgtaaa ctgggggtat 1950
attttgggga aaataaatgt ctttgtaaaa aaaaaaaaaa aaaaaaaaaa 1998

<210> 137

<211> 316

<212> PRT

<213> Homo sapiens

<220>

<221> unsure

<222> 233

<223> unknown amino acid

<400> 137

Met Leu Arg Arg Arg Gly Ser Pro Gly Met Gly Val His Val Gly

Pro Leu Lys His Ser Asp Ser Lys Glu Asp Asp Gly Gln Glu Ile
 305 310 315

Ala

<210> 138
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 138
 ctggcacagc tcaacctcat ctgg 24

<210> 139
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 139
 gctgtctgtc tgtctcattg 20

<210> 140
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 140
 ggacacagta tactgaccac 20

<210> 141
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 141
 tgccaaccag gcagctgtaa gtgc 24

<210> 142
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 142
tggaagaaga ggggtggtgat gtgg 24

<210> 143

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 143

cagctgacag acaccaaaca gctggtgcac agtttcaccg aaggc 45

<210> 144

<211> 2336

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 1620, 1673

<223> unknown base

<400> 144

ttcgtgaccc ttgagaaaag agttggtggt aaatgtgcca cgtcttctaa 50

gaagggggag tcctgaactt gtctgaagcc cttgtccgta agccttgaac 100

tacgttctta aatctatgaa gtcgaggac ctttcgctgc tttttagagg 150

acttctttcc ttgcttcagc aacatgaggc ttttcttgtg gaacgcggtc 200

ttgactctgt tcgtcacttc tttgattggg gctttgatcc ctgaaccaga 250

agtgaaaatt gaagttctcc agaagccatt catctgccat cgcaagacca 300

aaggagggga tttgatgttg gtccactatg aaggctactt agaaaaggac 350

ggctccttat ttactccac tcacaaacat aacaatgggtc agcccatttg 400

gtttaccctg ggcacccctg aggctctcaa aggttgggac cagggttga 450

aaggaatgtg tgtaggagag aagagaaagc tcatcattcc tctgctctg 500

ggctatggaa aagaaggaaa aggtaaaatt cccccagaaa gtacactgat 550

atttaatat gatctcctgg agattcgaaa tggaccaaga tcccatgaat 600

cattccaaga aatggatctt aatgatgact ggaaactctc taaagatgag 650

gttaaagcat atttaaagaa ggagtttgaa aaacatgggtg cggtggtgaa 700

tgaaagtcac catgatgctt tgggtggagga tatttttgat aaagaagatg 750

aagacaaaga tgggtttata tctgccagag aatttacata taaacacgat 800

gagttataga gatacatcta cccttttaac atagcactca tctttcaaga 850

gcagctacta ttgaataaat acctatcctg gatttt 2336

<210> 145

<211> 211

<212> PRT

<213> Homo sapiens

<400> 145

Met Arg Leu Phe Leu Trp Asn Ala Val Leu Thr Leu Phe Val Thr
1 5 10 15

Ser Leu Ile Gly Ala Leu Ile Pro Glu Pro Glu Val Lys Ile Glu
20 25 30

Val Leu Gln Lys Pro Phe Ile Cys His Arg Lys Thr Lys Gly Gly
35 40 45

Asp Leu Met Leu Val His Tyr Glu Gly Tyr Leu Glu Lys Asp Gly
50 55 60

Ser Leu Phe His Ser Thr His Lys His Asn Asn Gly Gln Pro Ile
65 70 75

Trp Phe Thr Leu Gly Ile Leu Glu Ala Leu Lys Gly Trp Asp Gln
80 85 90

Gly Leu Lys Gly Met Cys Val Gly Glu Lys Arg Lys Leu Ile Ile
95 100 105

Pro Pro Ala Leu Gly Tyr Gly Lys Glu Gly Lys Gly Lys Ile Pro
110 115 120

Pro Glu Ser Thr Leu Ile Phe Asn Ile Asp Leu Leu Glu Ile Arg
125 130 135

Asn Gly Pro Arg Ser His Glu Ser Phe Gln Glu Met Asp Leu Asn
140 145 150

Asp Asp Trp Lys Leu Ser Lys Asp Glu Val Lys Ala Tyr Leu Lys
155 160 165

Lys Glu Phe Glu Lys His Gly Ala Val Val Asn Glu Ser His His
170 175 180

Asp Ala Leu Val Glu Asp Ile Phe Asp Lys Glu Asp Glu Asp Lys
185 190 195

Asp Gly Phe Ile Ser Ala Arg Glu Phe Thr Tyr Lys His Asp Glu
200 205 210

Leu

<210> 146

<211> 26

<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 146
ctttccttgc ttcagcaaca tgaggc 26

<210> 147
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 147
gccagagca ggaggaatga tgagc 25

<210> 148
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 148
gtggaacgcg gtcttgactc tgttcgtcac ttctttgatt ggggctttg 49

<210> 149
<211> 2196
<212> DNA
<213> Homo sapiens

<400> 149
aataaagctt ccttaatggt gtatatgtct ttgaagtaca tccgtgcatt 50
tttttttagc atccaaccat tcttcccttg tagttctcgc cccctcaaatt 100
caccctctcc cgtagccac ccgactaaca tctcagtctc tgaaaatgca 150
cagagatgcc tggctacctc gccctgcctt cagcctcacg gggctcagtc 200
tctttttctc tttggtgcc aaggagcgga gcatggaggt cacagtacct 250
gccaccctca acgtcctcaa tggctctgac gccgcctgc cctgcacctt 300
caactcctgc tacacagtga accacaaaca gttctccctg aactggactt 350
accaggagtg caacaactgc tctgaggaga tggtcctcca gttccgcatg 400
aagatcatta acctgaagct ggagcgggtt caagaccgcg tggagttctc 450
agggaacccc agcaagtacg atgtgtcggg gatgctgaga aacgtgcagc 500
cggaggatga ggggatttac aactgctaca tcatgaaccc cctgaccgc 550
caccgtggcc atggcaagat ccatctgcag gtcctcatgg aagagcccc 600

tgagcgggac tccacggtgg ccgtgattgt gggcgcctcc gtcgggggct 650
 tcctggctgt ggtcatcttg gtgctgatgg tggcgaagtg tgtgaggaga 700
 aaaaaagagc agaagctgag cacagatgac ctgaagaccg aggaggaggg 750
 caagacggac ggtgaaggca acccgatga tggcgccaag tagtgggtgg 800
 cgggcctgc agcctcccg gtcccgcttc ctcctcttc cgcctgtac 850
 agtgaccctg cctgctcgct cttggtgtgc ttcctgtgac ctaggacccc 900
 agggcccacc tggggcctcc tgaacccccg acttcgtatc tcccaccctg 950
 caccaagagt gaccactct cttccatccg agaaacctgc catgctctgg 1000
 gacgtgtggg ccctggggag aggagagaaa gggcctccac ctgccagtcc 1050
 ctgggggggag gcaggaggca catgtgaggg tcccagaga gaaggagtg 1100
 ggtgggcagg ggtagaggag gggccgctgt cacctgcca gtgcttgct 1150
 ggcagtggct tcagagagga cctggtgggg agggagggct ttcctgtgct 1200
 gacagcgctc cctcaggagg gccttgccct ggcacggctg tgctcctccc 1250
 ctgctcccag ccagagcag ccatacaggct ggaggtgacg atgagttcct 1300
 gaaacttga ggggcatgtt aaagggatga ctgtgcattc cagggcaactg 1350
 acggaaagcc agggctgcag gcaaagctgg acatgtgcc tggcccagga 1400
 ggccatgttg ggccctcgtt tccattgcta gtggcctcct tggggctcct 1450
 gttggctcct aatcccttag gactgtggat gaggccagac tggaagagca 1500
 gctccaggta gggggccatg tttcccagcg gggaccacc aacagaggcc 1550
 agtttcaaag tcagctgagg ggctgagggg tggggctcca tggatgaatgc 1600
 aggttgctgc aggcctctgc ttctccatgg ggtaaccacc ctgccttggg 1650
 caggggcagc caaggctgg aaatgaggag gccatgcaca ggggggggca 1700
 gctttctttg gggcttcagt gagaactctc ccagttgcc ttggtgggg 1750
 ttccacctgg cttttggcta cagagaggga agggaaagcc tgaggccggc 1800
 ataaggggag gccttggaac ctgagctgcc aatgccagcc ctgtcccatc 1850
 tgcggccacg ctactcgctc ctctcccaac aactcccttc gtggggacaa 1900
 aagtgacaat tgtaggccag gcacagtggc tcacgcctgt aatcccagca 1950
 ctttgggagg ccaaggcggg tggattacct ccactgttt agtagaaatg 2000
 ggcaaaaccc catctctact aaaaatacaa gaattagctg ggcgtgggtg 2050

cgtgtgcctg taatcccagc tatttgggag gctgaggcag gagaatcgct 2100
 tgagcccggg aagcagaggt tgcagtgaac tgagatagtg atagtgccac 2150
 tgcaattcag cctgggtgac atagagagac tccatctcaa aaaaaa 2196

<210> 150
 <211> 215
 <212> PRT
 <213> Homo sapiens

<400> 150

Met	His	Arg	Asp	Ala	Trp	Leu	Pro	Arg	Pro	Ala	Phe	Ser	Leu	Thr	1	5	10	15
Gly	Leu	Ser	Leu	Phe	Phe	Ser	Leu	Val	Pro	Pro	Gly	Arg	Ser	Met	20	25	30	
Glu	Val	Thr	Val	Pro	Ala	Thr	Leu	Asn	Val	Leu	Asn	Gly	Ser	Asp	35	40	45	
Ala	Arg	Leu	Pro	Cys	Thr	Phe	Asn	Ser	Cys	Tyr	Thr	Val	Asn	His	50	55	60	
Lys	Gln	Phe	Ser	Leu	Asn	Trp	Thr	Tyr	Gln	Glu	Cys	Asn	Asn	Cys	65	70	75	
Ser	Glu	Glu	Met	Phe	Leu	Gln	Phe	Arg	Met	Lys	Ile	Ile	Asn	Leu	80	85	90	
Lys	Leu	Glu	Arg	Phe	Gln	Asp	Arg	Val	Glu	Phe	Ser	Gly	Asn	Pro	95	100	105	
Ser	Lys	Tyr	Asp	Val	Ser	Val	Met	Leu	Arg	Asn	Val	Gln	Pro	Glu	110	115	120	
Asp	Glu	Gly	Ile	Tyr	Asn	Cys	Tyr	Ile	Met	Asn	Pro	Pro	Asp	Arg	125	130	135	
His	Arg	Gly	His	Gly	Lys	Ile	His	Leu	Gln	Val	Leu	Met	Glu	Glu	140	145	150	
Pro	Pro	Glu	Arg	Asp	Ser	Thr	Val	Ala	Val	Ile	Val	Gly	Ala	Ser	155	160	165	
Val	Gly	Gly	Phe	Leu	Ala	Val	Val	Ile	Leu	Val	Leu	Met	Val	Val	170	175	180	
Lys	Cys	Val	Arg	Arg	Lys	Lys	Glu	Gln	Lys	Leu	Ser	Thr	Asp	Asp	185	190	195	
Leu	Lys	Thr	Glu	Glu	Glu	Gly	Lys	Thr	Asp	Gly	Glu	Gly	Asn	Pro	200	205	210	
Asp	Asp	Gly	Ala	Lys	215													

<210> 151

<211> 524
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> 103, 233
<223> unknown base

<400> 151
gttgtatatg tcttgaagta catccgtgca ttttttttag catccaacca 50
tcctcccttg tagttctcgc cccctcaaat caccttctcc cttagcccac 100
ccnactaaca tctcagtctc tgaaaatgca cagagatgcc tggctacctc 150
gccctgcctt cagcctcacg gggctcagtc tctttttctc tttggtgcc 200
ccaggacgga gcatggaggt ccacagtacc tgnccaccct caacgtcctc 250
aatggctctg acgcccgcct gccctgccct tcaactcctg ctacacagtg 300
aaccacaaac agttctccct gaactggact taccaggagt gcaacaactg 350
ctctgaggag atgttctctc agttccgcat gaagatcatt aacctgaagc 400
tgtagcggtt tcaagaccgc gtggagtctc cagggaaacc cagcaagtac 450
gatgtgtcgg tgatgctgag aaacgtgcag ccggaggatg aggggattta 500
caactgctac atcatgaacc cccc 524

<210> 152
<211> 368
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> 56, 123
<223> unknown base

<400> 152
tcacggggct catctctttt tctcttttgt gccaccagg acggagcatg 50
gaggtncaca tacctgccac cctcaacgtc ctcaatggct ttgacgccc 100
cctgccctgc accttcaact ccngctacac agtgaaccac aaacagttct 150
ccctgaactg gatttaccag gagtgcaca actggctctg aggagatgtt 200
cctccagttc ccgcatggaa gatcatttaa cctgaaagct ggaagcggtt 250
ttcaagaacc gcgtggaagt ttctcaggga acccagcaa gtacgatgtg 300
tcggtgatgc tgagaaacgt gcagccggag gatgagggga tttaactg 350
ctacatcatg aaccccc 368

<210> 153
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 153
acggagcatg gaggtccaca gtac 24

<210> 154
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 154
gcacgtttct cagcatcacc gac 23

<210> 155
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 155
cgccctgccct gcaccttcaa ctctgtctac acagtgaacc acaaacagtt 50

<210> 156
<211> 2680
<212> DNA
<213> Homo sapiens

<400> 156
tgcggcgacc gtcgtacacc atgggcctcc acctccgccc ctaccgtgtg 50
gggctgctcc cggatggcct cctgttcctc ttgtgtgtgc taatgtgtgt 100
cgcggaacca gcgctccgg ccggacgtca cccccagtg gtgctgggtcc 150
ctgggtgattt gggtaaccaa ctggaagcca agctggacaa gcgacagtg 200
gtgcactacc tctgtccaa gaagaccgaa agctacttca caatctggct 250
gaacctggaa ctgctgtgtc ctgtcatcat tgactgtgtg attgacaata 300
tcaggctgggt ttacaacaaa acatccaggg ccacccagtt tcctgatgggt 350
gtggatgtac gtgtccctgg ctttggaag accttctcac tggagttcct 400
ggacccagc aaaagcagcg tgggttccta ttccacacc atggtggaga 450
gccttggtggg ctggggctac acacgggggtg aggatgtccg aggggctccc 500

cccccagttcc cgcaggtgt gttccagggg ccctgatttc ctcggtatgt 2000
 ctattggccc caggactgaa gctgcctccc ttcaccctgg gactgtgggt 2050
 ccaaggatga gagcaggggt tggagccatg gccttctggg aacctatgga 2100
 gaaaggggaat ccaaggaagc agccaaggct gctcgcagct tccctgagct 2150
 gcacctcttg ctaaccccac catcacactg ccaccctgcc ctagggtctc 2200
 actagtacca agtgggtcag cacagggctg aggatggggc tcctatccac 2250
 cctggccagc acccagctta gtgctgggac tagcccagaa acttgaatgg 2300
 gaccctgaga gagccagggg tcccctgagg ccccctagg ggctttctgt 2350
 ctgccccagg gtgctccatg gatctccctg tggcagcagg catggagagt 2400
 cagggctgcc ttcattggcag taggctctaa gtgggtgact ggccacaggc 2450
 cgagaaaagg gtacagcctc taggtggggg tcccaaagac gccttcaggc 2500
 tggactgagc tgctctccca cagggtttct gtgcagctgg attttctctg 2550
 ttgcatacat gcttggcatc tgtctccctt tgttctgag tggccccaca 2600
 tggggctctg agcaggctgt atctggattc tggcaataaa agtactctgg 2650
 atgtgtataa aaaaaaaaaa aaaaaaaaaa 2680

<210> 157

<211> 412

<212> PRT

<213> Artificial

<400> 157

Met	Gly	Leu	His	Leu	Arg	Pro	Tyr	Arg	Val	Gly	Leu	Leu	Pro	Asp
1				5					10					15
Gly	Leu	Leu	Phe	Leu	Leu	Leu	Leu	Leu	Met	Leu	Leu	Ala	Asp	Pro
				20					25					30
Ala	Leu	Pro	Ala	Gly	Arg	His	Pro	Pro	Val	Val	Leu	Val	Pro	Gly
				35					40					45
Asp	Leu	Gly	Asn	Gln	Leu	Glu	Ala	Lys	Leu	Asp	Lys	Pro	Thr	Val
				50					55					60
Val	His	Tyr	Leu	Cys	Ser	Lys	Lys	Thr	Glu	Ser	Tyr	Phe	Thr	Ile
				65					70					75
Trp	Leu	Asn	Leu	Glu	Leu	Leu	Leu	Pro	Val	Ile	Ile	Asp	Cys	Trp
				80					85					90
Ile	Asp	Asn	Ile	Arg	Leu	Val	Tyr	Asn	Lys	Thr	Ser	Arg	Ala	Thr
				95					100					105
Gln	Phe	Pro	Asp	Gly	Val	Asp	Val	Arg	Val	Pro	Gly	Phe	Gly	Lys

Thr	Phe	Ser	Leu	Glu	Phe	Leu	Asp	Pro	Ser	Lys	Ser	Ser	Val	Gly
				125					130					135
Ser	Tyr	Phe	His	Thr	Met	Val	Glu	Ser	Leu	Val	Gly	Trp	Gly	Tyr
				140					145					150
Thr	Arg	Gly	Glu	Asp	Val	Arg	Gly	Ala	Pro	Tyr	Asp	Trp	Arg	Arg
				155					160					165
Ala	Pro	Asn	Glu	Asn	Gly	Pro	Tyr	Phe	Leu	Ala	Leu	Arg	Glu	Met
				170					175					180
Ile	Glu	Glu	Met	Tyr	Gln	Leu	Tyr	Gly	Gly	Pro	Val	Val	Leu	Val
				185					190					195
Ala	His	Ser	Met	Gly	Asn	Met	Tyr	Thr	Leu	Tyr	Phe	Leu	Gln	Arg
				200					205					210
Gln	Pro	Gln	Ala	Trp	Lys	Asp	Lys	Tyr	Ile	Arg	Ala	Phe	Val	Ser
				215					220					225
Leu	Gly	Ala	Pro	Trp	Gly	Gly	Val	Ala	Lys	Thr	Leu	Arg	Val	Leu
				230					235					240
Ala	Ser	Gly	Asp	Asn	Asn	Arg	Ile	Pro	Val	Ile	Gly	Pro	Leu	Lys
				245					250					255
Ile	Arg	Glu	Gln	Gln	Arg	Ser	Ala	Val	Ser	Thr	Ser	Trp	Leu	Leu
				260					265					270
Pro	Tyr	Asn	Tyr	Thr	Trp	Ser	Pro	Glu	Lys	Val	Phe	Val	Gln	Thr
				275					280					285
Pro	Thr	Ile	Asn	Tyr	Thr	Leu	Arg	Asp	Tyr	Arg	Lys	Phe	Phe	Gln
				290					295					300
Asp	Ile	Gly	Phe	Glu	Asp	Gly	Trp	Leu	Met	Arg	Gln	Asp	Thr	Glu
				305					310					315
Gly	Leu	Val	Glu	Ala	Thr	Met	Pro	Pro	Gly	Val	Gln	Leu	His	Cys
				320					325					330
Leu	Tyr	Gly	Thr	Gly	Val	Pro	Thr	Pro	Asp	Ser	Phe	Tyr	Tyr	Glu
				335					340					345
Ser	Phe	Pro	Asp	Arg	Asp	Pro	Lys	Ile	Cys	Phe	Gly	Asp	Gly	Asp
				350					355					360
Gly	Thr	Val	Asn	Leu	Lys	Ser	Ala	Leu	Gln	Cys	Gln	Ala	Trp	Gln
				365					370					375
Ser	Arg	Gln	Glu	His	Gln	Val	Leu	Leu	Gln	Glu	Leu	Pro	Gly	Ser
				380					385					390
Glu	His	Ile	Glu	Met	Leu	Ala	Asn	Ala	Thr	Thr	Leu	Ala	Tyr	Leu
				395					400					405

Lys Arg Val Leu Leu Gly Pro
410

<210> 158

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 158

ctggggctac acacggggtg agg 23

<210> 159

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 159

ggtgccgctg cagaaagtag agcg 24

<210> 160

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 160

gccccaaatg aaaacgggcc ctacttcctg gccctccgcg agatg 45

<210> 161

<211> 1512

<212> DNA

<213> Homo sapiens

<400> 161

cggacgcgtg ggcggacgcg tggggcggcg gcagcggcgg cgacggcgac 50

atggagagcg gggcctacgg cgcggccaag gcgggcggct ccttcgacct 100

gcggcgcttc ctgacgcagc cgcaggtggt ggcgcgcgcc gtgtgcttgg 150

tcttcgcctt gatcgtgttc tcttgcattc atggtgaggg ctacagcaat 200

gccacgagt ctaagcagat gtactgcgtg ttcaaccgca acgaggatgc 250

ctgccgctat ggcagtgcc tgggggtgct ggccttcctg gcctcggcct 300

tcttcttggg ggtcgacgcg tatctccccc agatcagcaa cgccactgac 350

cgcaagtacc tggtcattgg tgacctgctc ttctcagctc tctggacctt 400

Val	Cys	Leu	Val	Phe	Ala	Leu	Ile	Val	Phe	Ser	Cys	Ile	Tyr	Gly	
				35					40					45	
Glu	Gly	Tyr	Ser	Asn	Ala	His	Glu	Ser	Lys	Gln	Met	Tyr	Cys	Val	
				50					55					60	
Phe	Asn	Arg	Asn	Glu	Asp	Ala	Cys	Arg	Tyr	Gly	Ser	Ala	Ile	Gly	
				65					70					75	
Val	Leu	Ala	Phe	Leu	Ala	Ser	Ala	Phe	Phe	Leu	Val	Val	Asp	Ala	
				80					85					90	
Tyr	Phe	Pro	Gln	Ile	Ser	Asn	Ala	Thr	Asp	Arg	Lys	Tyr	Leu	Val	
				95					100					105	
Ile	Gly	Asp	Leu	Leu	Phe	Ser	Ala	Leu	Trp	Thr	Phe	Leu	Trp	Phe	
				110					115					120	
Val	Gly	Phe	Cys	Phe	Leu	Thr	Asn	Gln	Trp	Ala	Val	Thr	Asn	Pro	
				125					130					135	
Lys	Asp	Val	Leu	Val	Gly	Ala	Asp	Ser	Val	Arg	Ala	Ala	Ile	Thr	
				140					145					150	
Phe	Ser	Phe	Phe	Ser	Ile	Phe	Ser	Trp	Gly	Val	Leu	Ala	Ser	Leu	
				155					160					165	
Ala	Tyr	Gln	Arg	Tyr	Lys	Ala	Gly	Val	Asp	Asp	Phe	Ile	Gln	Asn	
				170					175					180	
Tyr	Val	Asp	Pro	Thr	Pro	Asp	Pro	Asn	Thr	Ala	Tyr	Ala	Ser	Tyr	
				185					190					195	
Pro	Gly	Ala	Ser	Val	Asp	Asn	Tyr	Gln	Gln	Pro	Pro	Phe	Thr	Gln	
				200					205					210	
Asn	Ala	Glu	Thr	Thr	Glu	Gly	Tyr	Gln	Pro	Pro	Pro	Val	Tyr		
				215					220						

<210> 163

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 163

tggtcttcgc cttgatcgtg ttct 24

<210> 164

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 164
gtgtactgag cggcggttag 20

<210> 165

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 165

ctgaaggtga tggctgccct cac 23

<210> 166

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 166
ccaggaggct catgggaaag tcc 23

<210> 167

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 167
ccacgagtct aagcagatgt actgcgtgtt caaccgcaac gaggatgcct 50

<210> 168

<211> 3143

<212> DNA

<213> Homo sapiens

<400> 168

gagccaccta ccctgctccg aggccaggcc tgcagggcct catcggccag 50
agggtgatca gtgagcagaa ggatgcccggt ggccgaggcc cccaggtgg 100
ctggcgggca gggggacgga ggtgatggcg aggaagcgga gccagagggg 150
atgttcaagg cctgtgagga ctccaagaga aaagcccggg gctacctccg 200
cctggtgccc ctgtttgtgc tgctggccct gctcgtgctg gcttcggcgg 250
gggtgctact ctggtatttc ctagggtaga aggcggaggt gatggtcagc 300
caggtgtact caggcagtct gcgtgtactc aatcgccact tctcccagga 350
tcttaccgcg cggaatcta gtgccttccg cagtgaacc gccaaagccc 400

agaagatgct caaggagctc atcaccagca cccgcctggg aacttactac 450
aactccagct ccgtctattc ctttggggag ggacccctca cctgcttctt 500
ctggttcatt ctccaaatcc ccgagcaccg ccggctgatg ctgagccccg 550
agggtgtgca ggcactgctg gtggaggagc tgctgtccac agtcaacagc 600
tcggctgccg tcccctacag ggccgagtac gaagtggacc ccgagggcct 650
agtgatcctg gaagccagtg tgaaagacat agctgcattg aattccacgc 700
tgggttggtta ccgctacagc tacgtgggcc agggccaggt cctccggctg 750
aaggggcctg accacctggc ctccagctgc ctgtggcacc tgcagggccc 800
caaggacctc atgctcaaac tccggctgga gtggacgctg gcagagtgcc 850
gggaccgact ggccatgtat gacgtggccg ggcccctgga gaagaggctc 900
atcacctcgg tgtacggctg cagccgccag gagcccgtgg tggaggttct 950
ggcgtcgggg gccatcatgg cggtcgtctg gaagaagggc ctgcacagct 1000
actacgaccc cttcgtgctc tccgtgcagc cgggtgtctt ccaggcctgt 1050
gaagtgaacc tgacgctgga caacaggctc gactcccagg gcgtcctcag 1100
caccocgtac ttccccagct actactcgcc ccaaaccacac tgctcctggc 1150
acctcaagggt gccctctctg gactacggct tggccctctg gtttgatgcc 1200
tatgcaactga ggaggcagaa gtatgatttg ccgtgcaccc agggccagtg 1250
gacgatccag aacaggaggc tgtgtggctt gcgcatcctg cagccctacg 1300
ccgagaggat ccccggtgtg gccacggccg ggatcaccat caacttcacc 1350
tcccagatct ccctcaccgg gcccggtgtg cgggtgcact atggcttgta 1400
caaccagtcg gaccctgcc ctggagagtt cctctgttct gtgaatggac 1450
tctgtgtccc tgctgtgat ggggtcaagg actgccccaa cggcctggat 1500
gagagaaact gcgtttgcag agccacattc cagtgcaaag aggacagcac 1550
atgcatctca ctgccaagg tctgtgatgg gcagcctgat tgtotcaacg 1600
gcagcgatga agagcagtc caggaagggg tgccatgtgg gacattcacc 1650
ttccagtgtg aggaccggag ctgcgtgaag aagcccaacc cgcagtgtga 1700
tgggcggccc gactgcaggg acggctcgga tgaggagcac tgtgactgtg 1750
gcctccaggg cccctccagc cgcattgttg gtggagctgt gtcctccgag 1800
ggtgagtggc catggcaggc cagcctccag gttcggggtc gacacatctg 1850

tggggggggcc ctcatcgctg accgctgggt gataacagct gccactgct 1900
tccaggagga cagcatggcc tccacggtgc tgtggaccgt gttcctgggc 1950
aagggtgtggc agaactcgcg ctggcctgga gaggtgtcct tcaaggtagag 2000
ccgcctgctc ctgcacccgt accacgaaga ggacagccat gactacgacg 2050
tggcgctgct gcagctcgac caccggtgg tgcgctcggc cgccgtgcgc 2100
cccgtctgcc tgcccgcgcg ctcccacttc ttcgagcccg gcctgcactg 2150
ctggattacg ggctggggcg ccttgcgca gggcgggccc atcagcaacg 2200
ctctgcagaa agtggatgtg cagttgatcc cacaggacct gtgcagcgag 2250
gcctatcgct accaggtagc gccacgcatg ctgtgtgccg gctaccgcaa 2300
gggcaagaag gatgcctgtc agggtagctc aggtggtccg ctggtgtgca 2350
aggcactcag tggccgctgg ttctggcgg ggctggtcag ctggggcctg 2400
ggctgtggcc ggcctaacta cttcggcgtc tacacccgca tcacaggtgt 2450
gatcagctgg atccagcaag tggtagctg aggaactgcc cccctgcaaa 2500
gcagggccca cctcctggac tcagagagcc cagggcaact gccaagcagg 2550
gggacaagta ttctggcggg gggtagggga gagagcaggc cctgtggtgg 2600
caggaggtgg catcttgtct cgtccctgat gtctgctcca gtgatggcag 2650
gaggatggag aagtgccagc agctgggggt caagacgtcc cctgaggacc 2700
caggcccaca cccagccctt ctgcctccca attctctctc ctccgtcccc 2750
ttcctccact gctgcctaata gcaaggcagt ggctcagcag caagaatgct 2800
ggttctacat cccgaggagt gtctgaggtg cgccccactc tgtacagagg 2850
ctgtttgggc agccttgctt ccagagagca gattccagct tcggaagccc 2900
ctgggtctaac ttgggatctg ggaatggaag gtgctcccat cggagggggac 2950
cctcagagcc ctggagactg ccagggtggc ctgctgccac tgtaagccaa 3000
aaggtagggga agtctgact ccagggtcct tgccccaccc ctgcctgcca 3050
cctgggcccct cacagcccag accctcactg ggaggtgagc tcagctgccc 3100
tttgaataa agctgcctga tcaaaaaaaaa aaaaaaaaaa aaa 3143

<210> 169
<211> 802
<212> PRT
<213> Homo sapiens
<400> 169

Met	Pro	Val	Ala	Glu	Ala	Pro	Gln	Val	Ala	Gly	Gly	Gln	Gly	Asp	1	5	10	15
Gly	Gly	Asp	Gly	Glu	Glu	Ala	Glu	Pro	Glu	Gly	Met	Phe	Lys	Ala	20	25	30	
Cys	Glu	Asp	Ser	Lys	Arg	Lys	Ala	Arg	Gly	Tyr	Leu	Arg	Leu	Val	35	40	45	
Pro	Leu	Phe	Val	Leu	Leu	Ala	Leu	Leu	Val	Leu	Ala	Ser	Ala	Gly	50	55	60	
Val	Leu	Leu	Trp	Tyr	Phe	Leu	Gly	Tyr	Lys	Ala	Glu	Val	Met	Val	65	70	75	
Ser	Gln	Val	Tyr	Ser	Gly	Ser	Leu	Arg	Val	Leu	Asn	Arg	His	Phe	80	85	90	
Ser	Gln	Asp	Leu	Thr	Arg	Arg	Glu	Ser	Ser	Ala	Phe	Arg	Ser	Glu	95	100	105	
Thr	Ala	Lys	Ala	Gln	Lys	Met	Leu	Lys	Glu	Leu	Ile	Thr	Ser	Thr	110	115	120	
Arg	Leu	Gly	Thr	Tyr	Tyr	Asn	Ser	Ser	Ser	Val	Tyr	Ser	Phe	Gly	125	130	135	
Glu	Gly	Pro	Leu	Thr	Cys	Phe	Phe	Trp	Phe	Ile	Leu	Gln	Ile	Pro	140	145	150	
Glu	His	Arg	Arg	Leu	Met	Leu	Ser	Pro	Glu	Val	Val	Gln	Ala	Leu	155	160	165	
Leu	Val	Glu	Glu	Leu	Leu	Ser	Thr	Val	Asn	Ser	Ser	Ala	Ala	Val	170	175	180	
Pro	Tyr	Arg	Ala	Glu	Tyr	Glu	Val	Asp	Pro	Glu	Gly	Leu	Val	Ile	185	190	195	
Leu	Glu	Ala	Ser	Val	Lys	Asp	Ile	Ala	Ala	Leu	Asn	Ser	Thr	Leu	200	205	210	
Gly	Cys	Tyr	Arg	Tyr	Ser	Tyr	Val	Gly	Gln	Gly	Gln	Val	Leu	Arg	215	220	225	
Leu	Lys	Gly	Pro	Asp	His	Leu	Ala	Ser	Ser	Cys	Leu	Trp	His	Leu	230	235	240	
Gln	Gly	Pro	Lys	Asp	Leu	Met	Leu	Lys	Leu	Arg	Leu	Glu	Trp	Thr	245	250	255	
Leu	Ala	Glu	Cys	Arg	Asp	Arg	Leu	Ala	Met	Tyr	Asp	Val	Ala	Gly	260	265	270	
Pro	Leu	Glu	Lys	Arg	Leu	Ile	Thr	Ser	Val	Tyr	Gly	Cys	Ser	Arg	275	280	285	
Gln	Glu	Pro	Val	Val	Glu	Val	Leu	Ala	Ser	Gly	Ala	Ile	Met	Ala				

	290		295		300
Val Val Trp Lys	Lys Gly Leu His Ser	Tyr Tyr Asp Pro Phe	Val		
	305		310		315
Leu Ser Val Gln	Pro Val Val Phe Gln	Ala Cys Glu Val Asn	Leu		
	320		325		330
Thr Leu Asp Asn	Arg Leu Asp Ser Gln	Gly Val Leu Ser Thr	Pro		
	335		340		345
Tyr Phe Pro Ser	Tyr Tyr Ser Pro Gln	Thr His Cys Ser Trp	His		
	350		355		360
Leu Thr Val Pro	Ser Leu Asp Tyr Gly	Leu Ala Leu Trp Phe	Asp		
	365		370		375
Ala Tyr Ala Leu	Arg Arg Gln Lys Tyr	Asp Leu Pro Cys Thr	Gln		
	380		385		390
Gly Gln Trp Thr	Ile Gln Asn Arg Arg	Leu Cys Gly Leu Arg	Ile		
	395		400		405
Leu Gln Pro Tyr	Ala Glu Arg Ile Pro	Val Val Ala Thr Ala	Gly		
	410		415		420
Ile Thr Ile Asn	Phe Thr Ser Gln Ile	Ser Leu Thr Gly Pro	Gly		
	425		430		435
Val Arg Val His	Tyr Gly Leu Tyr Asn	Gln Ser Asp Pro Cys	Pro		
	440		445		450
Gly Glu Phe Leu	Cys Ser Val Asn Gly	Leu Cys Val Pro Ala	Cys		
	455		460		465
Asp Gly Val Lys	Asp Cys Pro Asn Gly	Leu Asp Glu Arg Asn	Cys		
	470		475		480
Val Cys Arg Ala	Thr Phe Gln Cys Lys	Glu Asp Ser Thr Cys	Ile		
	485		490		495
Ser Leu Pro Lys	Val Cys Asp Gly Gln	Pro Asp Cys Leu Asn	Gly		
	500		505		510
Ser Asp Glu Glu	Gln Cys Gln Glu Gly	Val Pro Cys Gly Thr	Phe		
	515		520		525
Thr Phe Gln Cys	Glu Asp Arg Ser Cys	Val Lys Lys Pro Asn	Pro		
	530		535		540
Gln Cys Asp Gly	Arg Pro Asp Cys Arg	Asp Gly Ser Asp Glu	Glu		
	545		550		555
His Cys Asp Cys	Gly Leu Gln Gly Pro	Ser Ser Arg Ile Val	Gly		
	560		565		570
Gly Ala Val Ser	Ser Glu Gly Glu Trp	Pro Trp Gln Ala Ser	Leu		
	575		580		585

<211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 172
 taatccagca gtgcaggccg gg 22

 <210> 173
 <211> 50
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 173
 atggcctcca cgggtgctgtg gaccgtgttc ctgggcaagg tgtggcagaa 50

 <210> 174
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 174
 tgcctatgca ctgaggaggc agaag 25

 <210> 175
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 175
 aggcagggac acagagtcca ttcac 25

 <210> 176
 <211> 50
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 176
 agtatgattt gccgtgcacc cagggccagt ggacgatcca gaacaggagg 50

 <210> 177
 <211> 1510
 <212> DNA
 <213> Homo sapiens

<400> 177

ggacgagggc agatctcggt ctggggcaag ccgttgacac tcgctccctg 50
ccaccgcccg ggctccgtgc cgccaagttt tcattttcca ctttctctgc 100
ctccagtccc ccagcccctg gccgagagaa gggctcttacc ggccgggatt 150
gctggaaaca ccaagaggtg gtttttgttt tttaaaactt ctgtttcttg 200
ggaggggggtg tggcggggca ggatgagcaa ctccgttcct ctgctctgtt 250
tctggagcct ctgctattgc tttgctgcgg ggagccccgt accttttggg 300
ccagagggac ggctggaaga taagctccac aaacccaaag ctacacagac 350
tgaggtcaaa ccatctgtga ggtttaacct ccgcacctcc aaggaccag 400
agcatgaagg atgctacctc tccgtcggcc acagccagcc cttagaagac 450
tgcagtttca acatgacagc taaaaccttt ttcattcattc acggatggac 500
gatgagcggg atctttgaaa actggctgca caaactcgtg tcagccctgc 550
acacaagaga gaaagacgcc aatgtagttg tgggtgactg gctccccctg 600
gccaccagc tttacacgga tgcggtcaat aataccaggg tgggtgggaca 650
cagcattgcc aggatgctcg actggctgca ggagaaggac gatttttctc 700
tcgggaatgt ccacttgatc ggctacagcc tcggagcgca cgtggccggg 750
tatgcaggca acttcgtgaa aggaacggtg ggccgaatca caggtttggg 800
tcctgccggg cccatgtttg aaggggccga catccacaag aggtctctc 850
cggaogatgc agattttgtg gatgtcctcc acacctacac gcgttccttc 900
ggcttgagca ttggtattca gatgcctgtg ggccacattg acatctaccc 950
caatgggggt gacttcagc caggctgtgg actcaacgat gtcttgggat 1000
caattgcata tggaacaatc acagaggtgg taaaatgtga gcatgagcga 1050
gccgtccacc tctttgttga ctctctggg aatcaggaca agccgagttt 1100
tgcottccag tgcactgact ccaatcgctt caaaaagggg atctgtctga 1150
gctgccgcaa gaaccgttgt aatagcattg gctacaatgc caagaaaatg 1200
aggaacaaga ggaacagcaa aatgtaccta aaaacccggg caggcatgcc 1250
tttcagaggt aaccttcagt ccctggagt tccctgagga aggcccttaa 1300
tacctccttc ttaataccat gctgcagagc agggcacatc ctagcccagg 1350
agaagtggcc agcacaatcc aatcaaactg ttgcaaata gattacactg 1400
tgcattgcct aggaagggg atctttacaa aataaacagt gtggaccct 1450

aataaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1500

aaaaaaaaaa 1510

<210> 178

<211> 354

<212> PRT

<213> Homo sapiens

<400> 178

Met Ser Asn Ser Val Pro Leu Leu Cys Phe Trp Ser Leu Cys Tyr
1 5 10 15

Cys Phe Ala Ala Gly Ser Pro Val Pro Phe Gly Pro Glu Gly Arg
20 25 30

Leu Glu Asp Lys Leu His Lys Pro Lys Ala Thr Gln Thr Glu Val
35 40 45

Lys Pro Ser Val Arg Phe Asn Leu Arg Thr Ser Lys Asp Pro Glu
50 55 60

His Glu Gly Cys Tyr Leu Ser Val Gly His Ser Gln Pro Leu Glu
65 70 75

Asp Cys Ser Phe Asn Met Thr Ala Lys Thr Phe Phe Ile Ile His
80 85 90

Gly Trp Thr Met Ser Gly Ile Phe Glu Asn Trp Leu His Lys Leu
95 100 105

Val Ser Ala Leu His Thr Arg Glu Lys Asp Ala Asn Val Val Val
110 115 120

Val Asp Trp Leu Pro Leu Ala His Gln Leu Tyr Thr Asp Ala Val
125 130 135

Asn Asn Thr Arg Val Val Gly His Ser Ile Ala Arg Met Leu Asp
140 145 150

Trp Leu Gln Glu Lys Asp Asp Phe Ser Leu Gly Asn Val His Leu
155 160 165

Ile Gly Tyr Ser Leu Gly Ala His Val Ala Gly Tyr Ala Gly Asn
170 175 180

Phe Val Lys Gly Thr Val Gly Arg Ile Thr Gly Leu Asp Pro Ala
185 190 195

Gly Pro Met Phe Glu Gly Ala Asp Ile His Lys Arg Leu Ser Pro
200 205 210

Asp Asp Ala Asp Phe Val Asp Val Leu His Thr Tyr Thr Arg Ser
215 220 225

Phe Gly Leu Ser Ile Gly Ile Gln Met Pro Val Gly His Ile Asp
230 235 240

Ile	Tyr	Pro	Asn	Gly	Gly	Asp	Phe	Gln	Pro	Gly	Cys	Gly	Leu	Asn
				245					250					255
Asp	Val	Leu	Gly	Ser	Ile	Ala	Tyr	Gly	Thr	Ile	Thr	Glu	Val	Val
				260					265					270
Lys	Cys	Glu	His	Glu	Arg	Ala	Val	His	Leu	Phe	Val	Asp	Ser	Leu
				275					280					285
Val	Asn	Gln	Asp	Lys	Pro	Ser	Phe	Ala	Phe	Gln	Cys	Thr	Asp	Ser
				290					295					300
Asn	Arg	Phe	Lys	Lys	Gly	Ile	Cys	Leu	Ser	Cys	Arg	Lys	Asn	Arg
				305					310					315
Cys	Asn	Ser	Ile	Gly	Tyr	Asn	Ala	Lys	Lys	Met	Arg	Asn	Lys	Arg
				320					325					330
Asn	Ser	Lys	Met	Tyr	Leu	Lys	Thr	Arg	Ala	Gly	Met	Pro	Phe	Arg
				335					340					345

Gly	Asn	Leu	Gln	Ser	Leu	Glu	Cys	Pro
				350				

<210> 179

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 179

gtgagcatga gcgagccgtc cac 23

<210> 180

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 180

gctattacaa cggttcttgc ggcagc 26

<210> 181

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 181

ttgactctct ggtgaatcag gacaagccga gttttgcctt ccag 44

<210> 182

<211> 3240
<212> DNA
<213> Homo sapiens

<400> 182

cggacgcgtg ggcggacgcg tgggcctggg caagggccgg ggcgccgggc 50
cgagccacct ctccccctcc cccgcttccc tgtcgcgctc cgctggctgg 100
acgcgctgga ggagtggagc agcacccggc cggccctggg ggctgacagt 150
cggcaaagtt tggcccgaag aggaagtggc ctcaaaccac ggcaggtggc 200
gaccaggcca gaccaggggc gctcgtgccc tgcggggcggg ctgtaggcga 250
gggcgcgccc cagtgcgag acccggggct tcaggagccg gccccgggag 300
agaagagtgc ggcggcggac ggagaaaaca actccaaagt tggcgaaagg 350
caccgcccct actcccgggc tgccgcgccc tccccgcccc cagccctggc 400
atccagagta cgggtcgagc ccggggccatg gagccccct ggggaggcgg 450
caccagggag cctggggcgc cggggctccg ccgcgacccc atcgggtaga 500
ccacagaagc tccgggaccc ttccggcacc tctggacagc ccaggatgct 550
gttggccacc ctctctctcc tctccttgg aggcgctctg gccatccag 600
accggattat ttttccaaat catgcttgtg aggaccccc agcagtgtc 650
ttagaagtgc agggcacctt acagaggccc ctggtccggg acagccgcac 700
ctccccctgc aactgcacct ggctcatcct gggcagcaag gaacagactg 750
tcaccatcag gttccagaag ctacacctgg cctgtggctc agagcgctta 800
accctacgct cccctctcca gccactgatc tcctgtgtg aggcacctcc 850
cagccctctg cagctgcccg ggggcaacgt caccatcact tacagctatg 900
ctggggccag agcacccatg ggccagggct tcctgctctc ctacagccaa 950
gattggctga tgtgcctgca ggaagagttt cagtgcctga accaccgctg 1000
tgtatctgct gtccagcgt gtgatggggg tgatgcctgt ggcgatggct 1050
ctgatgaagc aggttgagc tcagaccct tccctggcct gacccaaga 1100
ccgctcccct cctgccttg caatgtcacc ttggaggact tctatggggg 1150
cttctctctc cctggatata cacacctagc ctcagtctcc cccccagt 1200
cctgccattg gctgctggac cccatgatg gccggcggct ggccgtgcgc 1250
ttcacagccc tggacttggg ctttgagat gcagtgcagc tgtatgacgg 1300
ccctgggccc cctgagagct cccgactact gcgtagtctc acccacttca 1350

gcaatggcaa ggctgtcact gtggagacac tgtctggcca ggctgttggtg 1400
 tcctaccaca cagttgcttg gagcaatggt cgtggcttca atgccaccta 1450
 ccatgtgcgg ggctattgct tgccttggga cagaccctgt ggcttaggct 1500
 ctggcctggg agctggcgaa ggcctagggt agcgtgcta cagtgaggca 1550
 cagcgtgtg acggctcatg ggactgtgct gacggcacag atgaggagga 1600
 ctgcccagge tgcccacctg gacacttccc ctgtggggct gctggcacct 1650
 ctggtgccac agcctgctac ctgcctgctg accgctgcaa ctaccagact 1700
 ttctgtgctg atggagcaga tgagagacgc tgtcggcatt gccagcctgg 1750
 caatttccga tgccgggacg agaagtgcgt gtatgagacg tgggtgtgcg 1800
 atgggcagcc agactgtgcg gacggcagt atgagtggga ctgctcctat 1850
 gttctgcccc gcaaggtcat tacagctgca gtcattggca gcctagtgtg 1900
 cggcctgctc ctggtcatcg ccctgggctg cacctgcaag ctctatgcca 1950
 ttgcaccca ggagtacagc atctttgcc ccctctcccg gatggaggct 2000
 gagattgtgc agcagcagge accccttcc tacgggcagc tcattgcca 2050
 gggtgccatc ccacctgtag aagacttcc tacagagaat cctaatgata 2100
 actcagtgtc gggcaacctg cgttctctgc tacagatctt acgccaggat 2150
 atgactccag gaggtggccc aggtgcccgc cgtcgtcagc gggggccgctt 2200
 gatgcgacgc ctggtacgcc gtctccgcc ctggggcttg ctccctcgaa 2250
 ccaacacccc ggctcgggcc tctgaggcca gatcccaggc cacaccttct 2300
 gctgctcccc ttgaggccct agatggtggc acaggtccag ccggtgaggg 2350
 cggggcagtg ggtgggcaag atggggagca ggcaccccca ctgcccata 2400
 aggctccctt cccatctgct agcacgtctc cagccccac tactgtccct 2450
 gaagccccag ggccactgcc ctcaactgcc ctagagccat cactattgtc 2500
 tggagtgggt caggccctgc gaggccgcct gttgccagc ctggggcccc 2550
 caggaccaac ccggagcccc cctggacccc acacagcagt cctggccctg 2600
 gaagatgagg acgatgtgct actggtgcca ctggctgagc cgggggtgtg 2650
 ggtagctgag gcagaggatg agccactgct tacctgaggg gacctggggg 2700
 ctctactgag gcctctcccc tgggggctct actcatagtg gcacaacctt 2750
 ttagagggtg gtcagcctcc cctccaccac ttccttccct gtccctggat 2800

ttcaggggact tgggtgggcct cccgttgacc ctatgtagct gctataaaagt 2850
 taagtgtccc tcaggcaggg agaggggtca cagagtctcc tctgtacgtg 2900
 gccatggcca gacaccccag tcccttcacc accacctgct ccccacgcca 2950
 ccaccatttg ggtggctgtt tttaaaaagt aaagttctta gaggatcata 3000
 ggtctggaca ctccatcctt gccaaacctc tacccaaaag tggccttaag 3050
 caccggaatg ccaattaact agagaccctc cagcccccaa ggggaggatt 3100
 tgggcagaac ctgaggtttt gccatccaca atccctccta cagggcctgg 3150
 ctcacaaaaa gagtgaaca aatgcttcta ttccatagct acggcattgc 3200
 tcagtaagtt gagggtcaaaa ataaaggaat catacatctc 3240

<210> 183

<211> 713

<212> PRT

<213> Homo sapiens

<400> 183

Met Leu Leu Ala Thr Leu Leu Leu Leu Leu Leu Gly Gly Ala Leu
 1 5 10 15

Ala His Pro Asp Arg Ile Ile Phe Pro Asn His Ala Cys Glu Asp
 20 25 30

Pro Pro Ala Val Leu Leu Glu Val Gln Gly Thr Leu Gln Arg Pro
 35 40 45

Leu Val Arg Asp Ser Arg Thr Ser Pro Ala Asn Cys Thr Trp Leu
 50 55 60

Ile Leu Gly Ser Lys Glu Gln Thr Val Thr Ile Arg Phe Gln Lys
 65 70 75

Leu His Leu Ala Cys Gly Ser Glu Arg Leu Thr Leu Arg Ser Pro
 80 85 90

Leu Gln Pro Leu Ile Ser Leu Cys Glu Ala Pro Pro Ser Pro Leu
 95 100 105

Gln Leu Pro Gly Gly Asn Val Thr Ile Thr Tyr Ser Tyr Ala Gly
 110 115 120

Ala Arg Ala Pro Met Gly Gln Gly Phe Leu Leu Ser Tyr Ser Gln
 125 130 135

Asp Trp Leu Met Cys Leu Gln Glu Glu Phe Gln Cys Leu Asn His
 140 145 150

Arg Cys Val Ser Ala Val Gln Arg Cys Asp Gly Val Asp Ala Cys
 155 160 165

Gly Asp Gly Ser Asp Glu Ala Gly Cys Ser Ser Asp Pro Phe Pro

Gly	Leu	Thr	Pro	Arg	Pro	Val	Pro	Ser	Leu	Pro	Cys	Asn	Val	Thr	170	175	180
				185					190					195			
Leu	Glu	Asp	Phe	Tyr	Gly	Val	Phe	Ser	Ser	Pro	Gly	Tyr	Thr	His			
				200					205					210			
Leu	Ala	Ser	Val	Ser	His	Pro	Gln	Ser	Cys	His	Trp	Leu	Leu	Asp			
				215					220					225			
Pro	His	Asp	Gly	Arg	Arg	Leu	Ala	Val	Arg	Phe	Thr	Ala	Leu	Asp			
				230					235					240			
Leu	Gly	Phe	Gly	Asp	Ala	Val	His	Val	Tyr	Asp	Gly	Pro	Gly	Pro			
				245					250					255			
Pro	Glu	Ser	Ser	Arg	Leu	Leu	Arg	Ser	Leu	Thr	His	Phe	Ser	Asn			
				260					265					270			
Gly	Lys	Ala	Val	Thr	Val	Glu	Thr	Leu	Ser	Gly	Gln	Ala	Val	Val			
				275					280					285			
Ser	Tyr	His	Thr	Val	Ala	Trp	Ser	Asn	Gly	Arg	Gly	Phe	Asn	Ala			
				290					295					300			
Thr	Tyr	His	Val	Arg	Gly	Tyr	Cys	Leu	Pro	Trp	Asp	Arg	Pro	Cys			
				305					310					315			
Gly	Leu	Gly	Ser	Gly	Leu	Gly	Ala	Gly	Glu	Gly	Leu	Gly	Glu	Arg			
				320					325					330			
Cys	Tyr	Ser	Glu	Ala	Gln	Arg	Cys	Asp	Gly	Ser	Trp	Asp	Cys	Ala			
				335					340					345			
Asp	Gly	Thr	Asp	Glu	Glu	Asp	Cys	Pro	Gly	Cys	Pro	Pro	Gly	His			
				350					355					360			
Phe	Pro	Cys	Gly	Ala	Ala	Gly	Thr	Ser	Gly	Ala	Thr	Ala	Cys	Tyr			
				365					370					375			
Leu	Pro	Ala	Asp	Arg	Cys	Asn	Tyr	Gln	Thr	Phe	Cys	Ala	Asp	Gly			
				380					385					390			
Ala	Asp	Glu	Arg	Arg	Cys	Arg	His	Cys	Gln	Pro	Gly	Asn	Phe	Arg			
				395					400					405			
Cys	Arg	Asp	Glu	Lys	Cys	Val	Tyr	Glu	Thr	Trp	Val	Cys	Asp	Gly			
				410					415					420			
Gln	Pro	Asp	Cys	Ala	Asp	Gly	Ser	Asp	Glu	Trp	Asp	Cys	Ser	Tyr			
				425					430					435			
Val	Leu	Pro	Arg	Lys	Val	Ile	Thr	Ala	Ala	Val	Ile	Gly	Ser	Leu			
				440					445					450			
Val	Cys	Gly	Leu	Leu	Leu	Val	Ile	Ala	Leu	Gly	Cys	Thr	Cys	Lys			
				455					460					465			

<400> 184
ggctgtcact gtggagacac 20

<210> 185
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 185
gcaaggtcat tacagctg 18

<210> 186
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 186
agaacatagg agcagtccca ctc 23

<210> 187
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 187
tgcctgctgc tgcacaatct cag 23

<210> 188
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 188
ggctattgct tgccttgga cagaccctgt ggcttaggct ctggc 45

<210> 189
<211> 663
<212> DNA
<213> Homo sapiens

<400> 189
cgagctgggc gagaagtagg ggagggcggt gctccgccgc ggtggcggtt 50
gctatcgctt cgcagaacct actcaggcag ccagctgaga agagttgagg 100
gaaagtgctg ctgctgggtc tgcagacgcg atggataacg tgcagccgaa 150

aataaaacat cgcccccttct gcttcagtgt gaaaggccac gtgaagatgc 200
tgcggctggc actaactgtg acatctatga ccttttttat catcgacaaa 250
gcccctgaac catatatgtg tatcactgga tttgaagtca ccgttatctt 300
atttttcata ctttttatatg tactcagact tgatcgatta atgaagtggg 350
tattttggcc tttgcttgat attatcaact cactggtaac aacagtattc 400
atgctcatcg tatctgtggt ggcaactgata ccagaaacca caacattgac 450
agttgggtgga ggggtggttg cacttgtagc agcagtatgc tgtcttgccg 500
acgggggccct tatttaccgg aagcttctgt tcaatcccag cggtccttac 550
cagaaaaagc ctgtgcatga aaaaaaagaa gttttgtaat tttatattac 600
tttttagttt gatactaagt attaaacata tttctgtatt cttcaaaaaa 650
aaaaaaaaaa aaa 663

<210> 190
<211> 152
<212> PRT
<213> Homo sapiens
<400> 190
Met Asp Asn Val Gln Pro Lys Ile Lys His Arg Pro Phe Cys Phe
1 5 10 15
Ser Val Lys Gly His Val Lys Met Leu Arg Leu Ala Leu Thr Val
20 25 30
Thr Ser Met Thr Phe Phe Ile Ile Ala Gln Ala Pro Glu Pro Tyr
35 40 45
Ile Val Ile Thr Gly Phe Glu Val Thr Val Ile Leu Phe Phe Ile
50 55 60
Leu Leu Tyr Val Leu Arg Leu Asp Arg Leu Met Lys Trp Leu Phe
65 70 75
Trp Pro Leu Leu Asp Ile Ile Asn Ser Leu Val Thr Thr Val Phe
80 85 90
Met Leu Ile Val Ser Val Leu Ala Leu Ile Pro Glu Thr Thr Thr
95 100 105
Leu Thr Val Gly Gly Gly Val Phe Ala Leu Val Thr Ala Val Cys
110 115 120
Cys Leu Ala Asp Gly Ala Leu Ile Tyr Arg Lys Leu Leu Phe Asn
125 130 135
Pro Ser Gly Pro Tyr Gln Lys Lys Pro Val His Glu Lys Lys Glu
140 145 150

Val Leu

<210> 191
<211> 495
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> 78, 212, 234, 487
<223> unknown base

<400> 191
gggcgagaag taggggaggg cgtgttcgc cgcggtggcg gttgctatcg 50
ttttgcagaa cctactcagg cagccagntg agaagagttg agggaaagtg 100
ctgctgctgg gtctgcagac gcgatggata acgtgcagcc gaaaataaaa 150
catcgcccct tctgcttcag tgtgaaaggc cacgtgaaga tgctgcggct 200
ggcactaact gngacatcta tgacctttt tatnatcgca caagcccctg 250
aaccatatat tgttatcact ggatttgaag tcaccgttat cttatttttc 300
atacttttat atgtactcag acttgatcga ttaatgaagt ggttattttg 350
gcctttgctt gatattatca actcactggt aacaacagta ttcatgctca 400
tcgtatctgt gttggcactg ataccagaaa ccacaacatt gacagttggt 450
ggaggggtgt ttgcacttgt gacagcagta tgctgtnttg ccgac 495

<210> 192
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 192
cgttttgcag aacctactca ggcag 25

<210> 193
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 193
cctccaccaa ctgtcaatgt tgtgg 25

<210> 194
<211> 40

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 194
aaagtgctgc tgctgggtct gcagacgcga tggataacgt 40

<210> 195
<211> 1879
<212> DNA
<213> Homo sapien

<400> 195
cagccccgcg cgccggccga gtcgtgagc cgcggtgcc ggacgggacg 50
ggaccggcta ggctggggcg gcccccggg ccccgccgtg ggcatgggag 100
cactggcccc ggcgctgctg ctgcctctgc tggcccagtg gtcctgctgc 150
gccgcccccg agctggcccc cgcgcccttc acgtgcccc tccgggtggc 200
cgcgggccacg aaccgogtag ttgcgcccac cccgggaccc gggacccctg 250
ccgagcgcca cgccgacggc ttggcgctcg ccctggagcc tgccctggcg 300
tcccccgcg ggcgcgcca cttcttgcc atggtagaca acctgcaggg 350
ggactctggc cgcggtact acctggagat gctgatcggg accccccgc 400
agaagctaca gattctcgtt gacactggaa gcagtaactt tgccgtggca 450
ggaacccgc actcctacat agacacgtac tttgacacag agaggtctag 500
cacataccgc tccaagggct ttgacgtcac agtgaagtac acacaaggaa 550
gctggacggg cttcgttggg gaagacctcg tcaccatccc caaaggcttc 600
aatacttctt ttcttgtcaa cattgccact atttttgaat cagagaattt 650
ctttttgcct gggattaaat ggaatggaat acttggccta gcttatgcca 700
cacttgccaa gccatcaagt tctctggaga cttcttcga ctccctggtg 750
acacaagcaa acatccccaa cgttttctcc atgcagatgt gtggagccgg 800
cttgcccgtt gctggatctg ggaccaacgg aggtagtctt gtcttgggtg 850
gaattgaacc aagtttgtat aaaggagaca tctggtatac ccctattaag 900
gaagagtggg actaccagat agaaattctg aaattggaaa ttggaggcca 950
aagccttaat ctggactgca gagagtataa cgagacaag gccatcgtgg 1000
acagtggcac cacgctgctg cgctgcccc agaaggtgtt tgatgcggtg 1050
gtggaagctg tggccgcgc atctctgatt ccagaattct ctgatggttt 1100

ctggactggg tcccagctgg cgtgctggac gaattcggaa acaccttgg 1150
 cttacttccc taaaatctcc atctacctga gagacgagaa ctccagcagg 1200
 tcattccgta tcacaatcct gcctcagctt tacattcagc ccatgatggg 1250
 ggccggcctg aattatgaat gttaccgatt cggcatttcc ccatccacaa 1300
 atgcgctggg gatcggtgcc acggtgatgg agggcttcta cgtcatcttc 1350
 gacagagccc agaagagggg gggcttcgca gcgagcccct gtgcagaaat 1400
 tgcagggtgct gcagtgtctg aaatttccgg gcctttctca acagaggatg 1450
 tagccagcaa ctgtgtcccc gctcagtctt tgagcgagcc cattttgtgg 1500
 attgtgtcct atgcgtcat gagcgtctgt ggagccatcc tccttgtctt 1550
 aatcgctctg ctgctgctgc cgttcoggtg tcagcgtcgc ccccgtagacc 1600
 ctgaggctgt caatgatgag tcctctctgg tcagacatcg ctggaaatga 1650
 atagccaggc ctgacctcaa gcaaccatga actcagctat taagaaaatc 1700
 acatttccag ggcagcagcc gggatcgatg gtggcgcttt ctctgtgcc 1750
 caccgtctt caatctctgt tctgctccca gatgccttct agattcactg 1800
 tcttttgatt cttgattttc aagctttcaa atcctcccta cttccaagaa 1850
 aaataattaa aaaaaaact tcattctaa 1879

<210> 196
 <211> 518
 <212> PRT
 <213> Homo sapien

<400> 196
 Met Gly Ala Leu Ala Arg Ala Leu Leu Leu Pro Leu Leu Ala Gln
 1 5 10 15
 Trp Leu Leu Arg Ala Ala Pro Glu Leu Ala Pro Ala Pro Phe Thr
 20 25 30
 Leu Pro Leu Arg Val Ala Ala Ala Thr Asn Arg Val Val Ala Pro
 35 40 45
 Thr Pro Gly Pro Gly Thr Pro Ala Glu Arg His Ala Asp Gly Leu
 50 55 60
 Ala Leu Ala Leu Glu Pro Ala Leu Ala Ser Pro Ala Gly Ala Ala
 65 70 75
 Asn Phe Leu Ala Met Val Asp Asn Leu Gln Gly Asp Ser Gly Arg
 80 85 90
 Gly Tyr Tyr Leu Glu Met Leu Ile Gly Thr Pro Pro Gln Lys Leu
 95 100 105

Gln	Ile	Leu	Val	Asp	Thr	Gly	Ser	Ser	Asn	Phe	Ala	Val	Ala	Gly	
				110					115					120	
Thr	Pro	His	Ser	Tyr	Ile	Asp	Thr	Tyr	Phe	Asp	Thr	Glu	Arg	Ser	
				125					130					135	
Ser	Thr	Tyr	Arg	Ser	Lys	Gly	Phe	Asp	Val	Thr	Val	Lys	Tyr	Thr	
				140					145					150	
Gln	Gly	Ser	Trp	Thr	Gly	Phe	Val	Gly	Glu	Asp	Leu	Val	Thr	Ile	
				155					160					165	
Pro	Lys	Gly	Phe	Asn	Thr	Ser	Phe	Leu	Val	Asn	Ile	Ala	Thr	Ile	
				170					175					180	
Phe	Glu	Ser	Glu	Asn	Phe	Phe	Leu	Pro	Gly	Ile	Lys	Trp	Asn	Gly	
				185					190					195	
Ile	Leu	Gly	Leu	Ala	Tyr	Ala	Thr	Leu	Ala	Lys	Pro	Ser	Ser	Ser	
				200					205					210	
Leu	Glu	Thr	Phe	Phe	Asp	Ser	Leu	Val	Thr	Gln	Ala	Asn	Ile	Pro	
				215					220					225	
Asn	Val	Phe	Ser	Met	Gln	Met	Cys	Gly	Ala	Gly	Leu	Pro	Val	Ala	
				230					235					240	
Gly	Ser	Gly	Thr	Asn	Gly	Gly	Ser	Leu	Val	Leu	Gly	Gly	Ile	Glu	
				245					250					255	
Pro	Ser	Leu	Tyr	Lys	Gly	Asp	Ile	Trp	Tyr	Thr	Pro	Ile	Lys	Glu	
				260					265					270	
Glu	Trp	Tyr	Tyr	Gln	Ile	Glu	Ile	Leu	Lys	Leu	Glu	Ile	Gly	Gly	
				275					280					285	
Gln	Ser	Leu	Asn	Leu	Asp	Cys	Arg	Glu	Tyr	Asn	Ala	Asp	Lys	Ala	
				290					295					300	
Ile	Val	Asp	Ser	Gly	Thr	Thr	Leu	Leu	Arg	Leu	Pro	Gln	Lys	Val	
				305					310					315	
Phe	Asp	Ala	Val	Val	Glu	Ala	Val	Ala	Arg	Ala	Ser	Leu	Ile	Pro	
				320					325					330	
Glu	Phe	Ser	Asp	Gly	Phe	Trp	Thr	Gly	Ser	Gln	Leu	Ala	Cys	Trp	
				335					340					345	
Thr	Asn	Ser	Glu	Thr	Pro	Trp	Ser	Tyr	Phe	Pro	Lys	Ile	Ser	Ile	
				350					355					360	
Tyr	Leu	Arg	Asp	Glu	Asn	Ser	Ser	Arg	Ser	Phe	Arg	Ile	Thr	Ile	
				365					370					375	
Leu	Pro	Gln	Leu	Tyr	Ile	Gln	Pro	Met	Met	Gly	Ala	Gly	Leu	Asn	
				380					385					390	
Tyr	Glu	Cys	Tyr	Arg	Phe	Gly	Ile	Ser	Pro	Ser	Thr	Asn	Ala	Leu	

	395	400	405
Val Ile Gly Ala Thr Val Met Glu Gly Phe Tyr Val Ile Phe Asp	410	415	420
Arg Ala Gln Lys Arg Val Gly Phe Ala Ala Ser Pro Cys Ala Glu	425	430	435
Ile Ala Gly Ala Ala Val Ser Glu Ile Ser Gly Pro Phe Ser Thr	440	445	450
Glu Asp Val Ala Ser Asn Cys Val Pro Ala Gln Ser Leu Ser Glu	455	460	465
Pro Ile Leu Trp Ile Val Ser Tyr Ala Leu Met Ser Val Cys Gly	470	475	480
Ala Ile Leu Leu Val Leu Ile Val Leu Leu Leu Leu Pro Phe Arg	485	490	495
Cys Gln Arg Arg Pro Arg Asp Pro Glu Val Val Asn Asp Glu Ser	500	505	510
Ser Leu Val Arg His Arg Trp Lys	515		

<210> 197

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 197

cgcagaagct acagattctc g 21

<210> 198

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 198

ggaaattgga ggccaaagc 19

<210> 199

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 199

ggatgtagcc agcaactgtg 20

<210> 200
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 200
gccttggctc gttctcttc 19

<210> 201
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 201
ggtcctgtgc ctggatgg 18

<210> 202
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 202
gacaagacta cctccgttgg tc 22

<210> 203
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 203
tgatgcacag ttcagcacct gttg 24

<210> 204
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 204
cgctccaagg gctttgacgt cacagtgaag tacacacaag gaagctg 47

<210> 205
<211> 1939
<212> DNA

<213> Homo sapiens

<400> 205

cgccctccgcc ttcggaggct gacgcgccc ggcgccgttc caggcctgtg 50
cagggcggat cggcagccgc ctggcggcga tccagggcgg tgcggggcct 100
gggcgggagc cgggaggcgc ggccggcatg gaggcgctgc tgctgggcgc 150
ggggttgctg ctgggcgctt acgtgcttgt ctactacaac ctggtgaagg 200
ccccgccgtg cggcggcatg ggcaacctgc ggggccgcac ggccgtggtc 250
acgggcgcca acagcggcat cggaaagatg acggcgctgg agctggcgcg 300
ccggggagcg cgcgtggtgc tggcctgccg cagccaggag cgcggggagg 350
cggctgcctt cgacctccgc caggagagtg ggaacaatga ggtcatcttc 400
atggccttgg acttggccag tctggcctcg gtgcgggcct ttgccactgc 450
ctttctgagc tctgagccac ggttggacat cctcatccac aatgccggtg 500
tcagttcctg tggccggacc cgtgaggcgt ttaacctgct gcttcgggtg 550
aaccatatcg gtccctttct gctgacacat ctgctgctgc ctgacctgaa 600
ggcatgtgcc cctagccgcg tgggtggtgt agcctcagct gccactgtc 650
ggggacgtct tgacttcaaa cgcttgacc gccagtgtt gggctggcgg 700
caggagctgc gggcatatgc tgacactaag ctggctaatt tactgtttgc 750
ccgggagctc gccaaccagc ttgaggccac tggcgtcacc tgctatgcag 800
cccaccagc gcctgtgaac tcggagctgt tcctgcgcca tgttcctgga 850
tggtgcgcc cacttttgcg ccattggct tggctggtgc tccgggcacc 900
aagagggggt gccagacac ccctgtattg tgctctaaa gagggcatcg 950
agcccctcag tgggagatat ttgccaact gccatgtgga agaggtgcct 1000
ccagctgccc gagacgaccg ggcagcccat cggctatggg aggccagcaa 1050
gaggtggca gggcttgggc ctggggagga tgctgaacc gatgaagacc 1100
cccagtctga ggactcagag gcccactctt ctctaagcac ccccaccct 1150
gaggagccca cagttttctc accttaccac agccctcaga gctcaccaga 1200
tttgtctaag atgacgcacc gaattcaggc taaagttgag cctgagatcc 1250
agctctccta accctcaggc caggatgctt gccatggcac ttcattgtcc 1300
ttgaaaacct cggatgtgtg tgaggccatg ccctggacac tgacgggttt 1350
gtgatcttga cctccgtggt tactttctgg ggccccaagc tgtgccctgg 1400

acatctcttt tcttggttga aggaataatg ggtgattatt tcttcctgag 1450
 agtgacagta accccagatg gagagatagg ggtatgctag acactgtgct 1500
 tctcggaat ttggatgtag tattttcagg cccaccctt attgattctg 1550
 atcagctctg gagcagagggc agggagtttg caatgtgatg cactgccaac 1600
 attgagaatt agtgaactga tccctttgca accgtctagc taggtagtta 1650
 aattaccccc atgttaatga agcggaatta ggctcccgag ctaagggact 1700
 cgcctagggg ctcacagtga gtaggaggag ggcttgggat ctgaacccaa 1750
 gggctctgagg ccagggccga ctgccgtaag atgggtgctg agaagtgagt 1800
 cagggcaggg cagctggtat cgaggtgccc catgggagta aggggacgcc 1850
 ttccgggagg atgcagggtt ggggtcatct gtatctgaag cccctcggaa 1900
 taaagcgcgt tgaccgccaa aaaaaaaaaa aaaaaaaaaa 1939

<210> 206
 <211> 377
 <212> PRT
 <213> Homo sapiens

<400> 206
 Met Glu Ala Leu Leu Leu Gly Ala Gly Leu Leu Leu Gly Ala Tyr
 1 5 10 15
 Val Leu Val Tyr Tyr Asn Leu Val Lys Ala Pro Pro Cys Gly Gly
 20 25 30
 Met Gly Asn Leu Arg Gly Arg Thr Ala Val Val Thr Gly Ala Asn
 35 40 45
 Ser Gly Ile Gly Lys Met Thr Ala Leu Glu Leu Ala Arg Arg Gly
 50 55 60
 Ala Arg Val Val Leu Ala Cys Arg Ser Gln Glu Arg Gly Glu Ala
 65 70 75
 Ala Ala Phe Asp Leu Arg Gln Glu Ser Gly Asn Asn Glu Val Ile
 80 85 90
 Phe Met Ala Leu Asp Leu Ala Ser Leu Ala Ser Val Arg Ala Phe
 95 100 105
 Ala Thr Ala Phe Leu Ser Ser Glu Pro Arg Leu Asp Ile Leu Ile
 110 115 120
 His Asn Ala Gly Ile Ser Ser Cys Gly Arg Thr Arg Glu Ala Phe
 125 130 135
 Asn Leu Leu Leu Arg Val Asn His Ile Gly Pro Phe Leu Leu Thr
 140 145 150

His	Leu	Leu	Leu	Pro	Cys	Leu	Lys	Ala	Cys	Ala	Pro	Ser	Arg	Val
				155					160					165
Val	Val	Val	Ala	Ser	Ala	Ala	His	Cys	Arg	Gly	Arg	Leu	Asp	Phe
				170					175					180
Lys	Arg	Leu	Asp	Arg	Pro	Val	Val	Gly	Trp	Arg	Gln	Glu	Leu	Arg
				185					190					195
Ala	Tyr	Ala	Asp	Thr	Lys	Leu	Ala	Asn	Val	Leu	Phe	Ala	Arg	Glu
				200					205					210
Leu	Ala	Asn	Gln	Leu	Glu	Ala	Thr	Gly	Val	Thr	Cys	Tyr	Ala	Ala
				215					220					225
His	Pro	Gly	Pro	Val	Asn	Ser	Glu	Leu	Phe	Leu	Arg	His	Val	Pro
				230					235					240
Gly	Trp	Leu	Arg	Pro	Leu	Leu	Arg	Pro	Leu	Ala	Trp	Leu	Val	Leu
				245					250					255
Arg	Ala	Pro	Arg	Gly	Gly	Ala	Gln	Thr	Pro	Leu	Tyr	Cys	Ala	Leu
				260					265					270
Gln	Glu	Gly	Ile	Glu	Pro	Leu	Ser	Gly	Arg	Tyr	Phe	Ala	Asn	Cys
				275					280					285
His	Val	Glu	Glu	Val	Pro	Pro	Ala	Ala	Arg	Asp	Asp	Arg	Ala	Ala
				290					295					300
His	Arg	Leu	Trp	Glu	Ala	Ser	Lys	Arg	Leu	Ala	Gly	Leu	Gly	Pro
				305					310					315
Gly	Glu	Asp	Ala	Glu	Pro	Asp	Glu	Asp	Pro	Gln	Ser	Glu	Asp	Ser
				320					325					330
Glu	Ala	Pro	Ser	Ser	Leu	Ser	Thr	Pro	His	Pro	Glu	Glu	Pro	Thr
				335					340					345
Val	Ser	Gln	Pro	Tyr	Pro	Ser	Pro	Gln	Ser	Ser	Pro	Asp	Leu	Ser
				350					355					360
Lys	Met	Thr	His	Arg	Ile	Gln	Ala	Lys	Val	Glu	Pro	Glu	Ile	Gln
				365					370					375

Leu Ser

<210> 207

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 207

cttcatggcc ttggacttgg ccag 24

cctgcagagg gccccaagcc tagaccggcg gtgtggctca gctggaaggt 800
cagtggccct gctgcgcctg cccaatctta cacggccttg ttcaggaccc 850
agactgcccc gggaggccag ggagctccgt gggcagagga gctgctggcc 900
ggctggcaga gcgcagagct tggaggcctc cactggggcc aagactacga 950
gttcaaagtg agaccatcct ctggccgggc tcgaggccct gacagcaacg 1000
tgctgctcct gaggctgccg gaaaaagtgc ccagtgcccc acctcaggaa 1050
gtgactctaa agcctggcaa tggcactgtc tttgtgagct ggggtcccacc 1100
acctgctgaa aaccacaatg gcatcatccg tggtaccag gtctggagcc 1150
tgggcaacac atcactgcca ccagccaact ggactgtagt tggtagcag 1200
accagctgg aaatcgccac ccatatgcca ggctcctact gcgtgcaagt 1250
ggctgcagtc actggtgctg gagctgggga gccagtaga cctgtctgcc 1300
tccttttaga gcaggccatg gagcgagcca cccaagaacc cagtgagcat 1350
ggtccctgga ccctggagca gctgagggct acctgaagc ggctgaggt 1400
cattgccacc tgcggtgttg cactctggct gctgcttctg ggcaccgccg 1450
tgtgtatcca ccgccggcgc cgagctaggg tgcacctggg ccaggtctg 1500
tacagatata ccagtgagga tgccatccta aaacacagga tggatcacag 1550
tgactcccag tggttggcag acaattggcg ttccacctct ggctctcggg 1600
acctgagcag cagcagcagc ctacagcagtc ggctgggggc ggatgcccgg 1650
gaccactag actgtcgtcg ctccctgtct tccctgggact cccgaagccc 1700
cggcgtgccc ctgcttccag acaccagcac tttttatggc tccctcatcg 1750
ctgagctgcc ctccagtacc ccagccaggc caagtcccca ggtcccagct 1800
gtcaggcgcc tcccaccca gctggcccag ctctccagcc cctgttccag 1850
ctcagacagc ctctgcagcc gcaggggact ctcttctccc cgcttgtctc 1900
tgggccctgc agaggcttgg aaggccaaaa agaagcagga gctgcagcat 1950
gccaacagtt cccactgct ccggggcagc cactccttgg agctccgggc 2000
ctgtgagtta ggaaatagag gttccaagaa cttttcccaa agcccaggag 2050
ctgtgcccc aactctgtgt gcctggcggg ccctgggacc gaaactcctc 2100
agctcctcaa atgagctggt tactogtcat ctccctccag caccctctt 2150
tcctcatgaa actcccccaa ctcagagtca acagaccag cctccggtgg 2200

caccacaggc tccctcctcc atcctgctgc cagcagcccc catccccatc 2250
cttagcccct gcagtccccc tagcccccag gcctcttccc tctctggccc 2300
cagcccagct tccagtcgcc tgtocagctc ctactgtca tccctggggg 2350
aggatcaaga cagcgtgctg acccctgagg aggtagccct gtgcttgaa 2400
ctcagtgagg gtgaggagac tcccaggaac agcgtctctc ccatgccaag 2450
ggctccttca cccccacca cctatgggta catcagcgtc ccaacagcct 2500
cagagtccac ggacatgggc aggactggag gagggggtggg gcccaagggg 2550
ggagtcttgc tgtgccacc tcggccctgc ctacccccca ccccagcga 2600
gggctcctta gccaatggtt ggggctcagc ctctgaggac aatgccgcca 2650
gcgccagagc cagccttgtc agctcctccg atggctcctt cctcgtgat 2700
gctcactttg cccgggccct ggcagtggct gtggatagct ttggtttcgg 2750
tctagagccc agggaggcag actgogtctt catagatgcc tcatcacctc 2800
cctccccacg ggatgagatc ttctgacct ccaacctctc cctgcccctg 2850
tgaggagtga ggccagactg gttggaagac atggaggcca gccacacca 2900
gcggctggga aggggggatgc ctccctggcc ccctgactct cagatctctt 2950
cccagagaag tcagctccac tgtcgtatgc ccaaggctgg tgcttctcct 3000
gtagattact cctgaaccgt gtccctgaga cttcccagac gggaatcaga 3050
accacttctc ctgtccaccc acaagacctg ggctgtggtg tgtgggtctt 3100
ggcctgtgtt tctctgcagc tggggccac cttcccagc ctccagagag 3150
ttctccctcc acgattgtga aaacaaatga aaacaaaatt agagcaaagc 3200
tgacctggag ccctcaggga gcaaaacatc atctccacct gactcctagc 3250
cactgctttc tctctgtgc catccactcc caccaccagg ttgttttggc 3300
ctgaggagca gccctgcctg ctgctcttcc cccaccattt ggatcacagg 3350
aagtggagga gccagagggt cctttgtgga ggacagcagt ggctgctggg 3400
agagggctgt ggaggaagga gcttctcgga gccccctctc agccttacct 3450
gggcccctcc tctagagaag agctcaactc tctcccacc tcaccatgga 3500
aagaaaataa ttatgaatgc cactgaggca ctgaggccct acctcatgcc 3550
aaacaaaggg ttcaaggctg ggtctagcga ggatgctgaa ggaaggagg 3600
tatgagaccg taggtcaaaa gcaccatcct cgtactgttg tcactatgag 3650

cttaagaaat ttgataccat aaaatggtaa aaaaaaaaaa aaaaaaaaaa 3700

aaaaaaaaaa aaaaaa 3716

<210> 211

<211> 985

<212> PRT

<213> Homo sapiens

<400> 211

Met	Gly	Gly	Met	Ala	Gln	Asp	Ser	Pro	Pro	Gln	Ile	Leu	Val	His
1				5					10					15

Pro	Gln	Asp	Gln	Leu	Phe	Gln	Gly	Pro	Gly	Pro	Ala	Arg	Met	Ser
			20				25							30

Cys	Gln	Ala	Ser	Gly	Gln	Pro	Pro	Pro	Thr	Ile	Arg	Trp	Leu	Leu
				35					40					45

Asn	Gly	Gln	Pro	Leu	Ser	Met	Val	Pro	Pro	Asp	Pro	His	His	Leu
				50					55					60

Leu	Pro	Asp	Gly	Thr	Leu	Leu	Leu	Leu	Gln	Pro	Pro	Ala	Arg	Gly
				65					70					75

His	Ala	His	Asp	Gly	Gln	Ala	Leu	Ser	Thr	Asp	Leu	Gly	Val	Tyr
				80					85					90

Thr	Cys	Glu	Ala	Ser	Asn	Arg	Leu	Gly	Thr	Ala	Val	Ser	Arg	Gly
				95					100					105

Ala	Arg	Leu	Ser	Val	Ala	Val	Leu	Arg	Glu	Asp	Phe	Gln	Ile	Gln
				110					115					120

Pro	Arg	Asp	Met	Val	Ala	Val	Val	Gly	Glu	Gln	Phe	Thr	Leu	Glu
				125					130					135

Cys	Gly	Pro	Pro	Trp	Gly	His	Pro	Glu	Pro	Thr	Val	Ser	Trp	Trp
				140					145					150

Lys	Asp	Gly	Lys	Pro	Leu	Ala	Leu	Gln	Pro	Gly	Arg	His	Thr	Val
				155					160					165

Ser	Gly	Gly	Ser	Leu	Leu	Met	Ala	Arg	Ala	Glu	Lys	Ser	Asp	Glu
				170					175					180

Gly	Thr	Tyr	Met	Cys	Val	Ala	Thr	Asn	Ser	Ala	Gly	His	Arg	Glu
				185					190					195

Ser	Arg	Ala	Ala	Arg	Val	Ser	Ile	Gln	Glu	Pro	Gln	Asp	Tyr	Thr
				200					205					210

Glu	Pro	Val	Glu	Leu	Leu	Ala	Val	Arg	Ile	Gln	Leu	Glu	Asn	Val
				215					220					225

Thr	Leu	Leu	Asn	Pro	Asp	Pro	Ala	Glu	Gly	Pro	Lys	Pro	Arg	Pro
				230					235					240

530	535	540
Leu Ser Trp Asp Ser Arg Ser Pro Gly Val Pro Leu Leu Pro Asp	545	555
Thr Ser Thr Phe Tyr Gly Ser Leu Ile Ala Glu Leu Pro Ser Ser	560	570
Thr Pro Ala Arg Pro Ser Pro Gln Val Pro Ala Val Arg Arg Leu	575	585
Pro Pro Gln Leu Ala Gln Leu Ser Ser Pro Cys Ser Ser Ser Asp	590	600
Ser Leu Cys Ser Arg Arg Gly Leu Ser Ser Pro Arg Leu Ser Leu	605	615
Ala Pro Ala Glu Ala Trp Lys Ala Lys Lys Lys Gln Glu Leu Gln	620	630
His Ala Asn Ser Ser Pro Leu Leu Arg Gly Ser His Ser Leu Glu	635	645
Leu Arg Ala Cys Glu Leu Gly Asn Arg Gly Ser Lys Asn Leu Ser	650	660
Gln Ser Pro Gly Ala Val Pro Gln Ala Leu Val Ala Trp Arg Ala	665	675
Leu Gly Pro Lys Leu Leu Ser Ser Ser Asn Glu Leu Val Thr Arg	680	690
His Leu Pro Pro Ala Pro Leu Phe Pro His Glu Thr Pro Pro Thr	695	705
Gln Ser Gln Gln Thr Gln Pro Pro Val Ala Pro Gln Ala Pro Ser	710	720
Ser Ile Leu Leu Pro Ala Ala Pro Ile Pro Ile Leu Ser Pro Cys	725	735
Ser Pro Pro Ser Pro Gln Ala Ser Ser Leu Ser Gly Pro Ser Pro	740	750
Ala Ser Ser Arg Leu Ser Ser Ser Ser Leu Ser Ser Leu Gly Glu	755	765
Asp Gln Asp Ser Val Leu Thr Pro Glu Glu Val Ala Leu Cys Leu	770	780
Glu Leu Ser Glu Gly Glu Glu Thr Pro Arg Asn Ser Val Ser Pro	785	795
Met Pro Arg Ala Pro Ser Pro Pro Thr Thr Tyr Gly Tyr Ile Ser	800	810
Val Pro Thr Ala Ser Glu Phe Thr Asp Met Gly Arg Thr Gly Gly	815	825

Gly	Val	Gly	Pro	Lys	Gly	Gly	Val	Leu	Leu	Cys	Pro	Pro	Arg	Pro	
				830					835					840	
Cys	Leu	Thr	Pro	Thr	Pro	Ser	Glu	Gly	Ser	Leu	Ala	Asn	Gly	Trp	
				845					850					855	
Gly	Ser	Ala	Ser	Glu	Asp	Asn	Ala	Ala	Ser	Ala	Arg	Ala	Ser	Leu	
				860					865					870	
Val	Ser	Ser	Ser	Asp	Gly	Ser	Phe	Leu	Ala	Asp	Ala	His	Phe	Ala	
				875					880					885	
Arg	Ala	Leu	Ala	Val	Ala	Val	Asp	Ser	Phe	Gly	Phe	Gly	Leu	Glu	
				890					895					900	
Pro	Arg	Glu	Ala	Asp	Cys	Val	Phe	Ile	Asp	Ala	Ser	Ser	Pro	Pro	
				905					910					915	
Ser	Pro	Arg	Asp	Glu	Ile	Phe	Leu	Thr	Pro	Asn	Leu	Ser	Leu	Pro	
				920					925					930	
Leu	Trp	Glu	Trp	Arg	Pro	Asp	Trp	Leu	Glu	Asp	Met	Glu	Val	Ser	
				935					940					945	
His	Thr	Gln	Arg	Leu	Gly	Arg	Gly	Met	Pro	Pro	Trp	Pro	Pro	Asp	
				950					955					960	
Ser	Gln	Ile	Ser	Ser	Gln	Arg	Ser	Gln	Leu	His	Cys	Arg	Met	Pro	
				965					970					975	
Lys	Ala	Gly	Ala	Ser	Pro	Val	Asp	Tyr	Ser						
				980					985						

<210> 212

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 212

gaagggacct acatgtgtgt ggcc 24

<210> 213

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 213

actgaccttc cagctgagcc acac 24

<210> 214

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 214

aggactacac ggagcctgtg gagcttctgg ctgtgcgaat tcagctggaa 50

<210> 215

<211> 2749

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 1869, 1887

<223> unknown base

<400> 215

ctcccacggt gtccagcgcc cagaatgcgg cttctgggtcc tgctatgggg 50

ttgcctgctg ctcccagggt atgaagccct ggagggccca gaggaaatca 100

gcggggttca aggggacact gtgtccctgc agtgcaccta cagggaagag 150

ctgagggacc accggaagta ctggtgcagg aaggggtggga tcctcttctc 200

tcgctgctct ggcaccatct atgcagaaga agaaggccag gagacaatga 250

agggcaggggt gtccatccgt gacagccgcc aggagctctc gctcattgtg 300

accctgtgga acctcaccct gcaagacgct ggggagtact ggtgtgggggt 350

cgaaaaacgg ggccccgatg agtctttact gatctctctg ttctgtcttc 400

caggaccctg ctgtcctccc tccccttctc ccaccttcca gcctctgggt 450

acaacacgcc tgcagcccaa ggcaaaagct cagcaaacc agccccaggg 500

attgacttct cctggggtct acccggcagc caccacagcc aagcagggga 550

agacaggggc tgaggccctt ccattgccag ggacttcca gtacgggcac 600

gaaaggactt ctcagtacac aggaacctct cctcaccag cgacctctcc 650

tcctgcaggg agtcccgc ccccatgca gctggactcc acctcagcag 700

aggacaccag tccagctctc agcagtggca gctctaagcc cagggtgtcc 750

atcccgatgg tccgcatact ggccccagtc ctggtgctgc tgagccttct 800

gtcagccgca ggcctgatcg cttctgcag ccacctgctc ctgtggagaa 850

aggaagctca acaggccacg gagacacaga ggaacgagaa gttctggctc 900

tcacgcttga ctgcggagga aaaggaagcc ccttcccagg cccctgaggg 950

ggacgtgatc tcgatgcctc ccctccacac atctgaggag gagctgggct 1000

tctcgaagtt	tgtctcagcg	tagggcagga	ggccctcctg	gccaggccag	1050
cagtgaagca	gtatggctgg	ctggatcagc	accgattccc	gaaagctttc	1100
cacctcagcc	tcagagtcca	gctgcccgga	ctccagggct	ctccccaccc	1150
tccccaggct	ctcctcttgc	atgttccagc	ctgacctaga	agcgtttgtc	1200
agccctggag	cccagagcgg	tggccttgct	cttccggctg	gagactggga	1250
catccctgat	aggttcacat	ccctgggcag	agtaccaggc	tgtcgaccct	1300
cagcagggcc	agacaaggct	cagtggatct	ggtctgagtt	tcaatctgcc	1350
aggaactcct	gggcctcatg	cccagtgtcg	gaccctgcct	tcctcccact	1400
ccagacccca	ccttgtcttc	cctccctggc	gtcctcagac	ttagtcccac	1450
ggtctcctgc	atcagctggg	gatgaagagg	agcatgctgg	ggtgagactg	1500
ggattctggc	ttctctttga	accacctgca	tccagccctt	caggaagcct	1550
gtgaaaaacg	tgattcctgg	ccccaccaag	acccaccaa	accatctctg	1600
ggcttggtgc	aggactctga	attctaaca	tgcccagtga	ctgtcgcact	1650
tgagtttgag	ggccagtg	cctgatgaac	gctcacacc	cttcagctta	1700
gagtctgcat	ttgggctgtg	acgtctccac	ctgcccgaat	agatctgctc	1750
tgtctgcgac	accagatcca	cgtggggact	cccctgaggc	ctgctaagtc	1800
caggccttgg	tcaggtcagg	tgcacattgc	aggataagcc	caggaccggc	1850
acagaagtgg	ttgcctttnc	catttgccct	ccctggncca	tgccttcttg	1900
cctttggaaa	aatgatgaa	gaaaaccttg	gctccttcct	tgtctggaaa	1950
gggttacttg	cctatgggtt	ctgggtggcta	gagagaaaag	tagaaaacca	2000
gagtgcacgt	aggtgtctaa	cacagaggag	agtaggaaca	gggcgatac	2050
ctgaaggtga	ctccgagtcc	agccccctgg	agaaggggtc	gggggtggtg	2100
gtaaagtagc	acaactacta	ttttttttct	ttttccatta	ttattgtttt	2150
ttaagacaga	atctcgtgct	gctgcccagg	ctggagtgca	gtggcacgat	2200
ctgcaaactc	cgcctcctgg	gttcaagtga	ttctttctgcc	tcagcctccc	2250
gagtagctgg	gattacaggc	acgcaccacc	acacctggct	aatttttgta	2300
cttttagtag	agatgggggt	tcaccatgtt	ggccaggctg	gtcttgaact	2350
cctgacctca	aatgagcctc	ctgcttcagt	ctcccaaatt	gccgggatta	2400
caggcatgag	ccactgtgtc	tggccctatt	tccttttaaaa	agtgaaatta	2450

agagttgttc agtatgcaaa acttggaag atggaggaga aaaagaaaag 2500
gaagaaaaaa atgtcaccca tagtctcacc agagactatc attatttcgt 2550
tttgttgtac ttccctccac tcttttcttc ttcacataat ttgccggtgt 2600
tctttttaca gagcaattat cttgtatata caactttgta tcctgccttt 2650
tccaccttat cgttccatca ctttattcca gcacttctct gtgttttaca 2700
gaccttttta taaataaaat gttcatcagc tgcataaaaa aaaaaaaaaa 2749

<210> 216

<211> 332

<212> PRT

<213> Homo sapiens

<400> 216

Met	Arg	Leu	Leu	Val	Leu	Leu	Trp	Gly	Cys	Leu	Leu	Leu	Pro	Gly	1	5	10	15
Tyr	Glu	Ala	Leu	Glu	Gly	Pro	Glu	Glu	Ile	Ser	Gly	Phe	Glu	Gly	20	25	30	
Asp	Thr	Val	Ser	Leu	Gln	Cys	Thr	Tyr	Arg	Glu	Glu	Leu	Arg	Asp	35	40	45	
His	Arg	Lys	Tyr	Trp	Cys	Arg	Lys	Gly	Gly	Ile	Leu	Phe	Ser	Arg	50	55	60	
Cys	Ser	Gly	Thr	Ile	Tyr	Ala	Glu	Glu	Gly	Gln	Glu	Thr	Met	65	70	75		
Lys	Gly	Arg	Val	Ser	Ile	Arg	Asp	Ser	Arg	Gln	Glu	Leu	Ser	Leu	80	85	90	
Ile	Val	Thr	Leu	Trp	Asn	Leu	Thr	Leu	Gln	Asp	Ala	Gly	Glu	Tyr	95	100	105	
Trp	Cys	Gly	Val	Glu	Lys	Arg	Gly	Pro	Asp	Glu	Ser	Leu	Leu	Ile	110	115	120	
Ser	Leu	Phe	Val	Phe	Pro	Gly	Pro	Cys	Cys	Pro	Pro	Ser	Pro	Ser	125	130	135	
Pro	Thr	Phe	Gln	Pro	Leu	Ala	Thr	Thr	Arg	Leu	Gln	Pro	Lys	Ala	140	145	150	
Lys	Ala	Gln	Gln	Thr	Gln	Pro	Pro	Gly	Leu	Thr	Ser	Pro	Gly	Leu	155	160	165	
Tyr	Pro	Ala	Ala	Thr	Thr	Ala	Lys	Gln	Gly	Lys	Thr	Gly	Ala	Glu	170	175	180	
Ala	Pro	Pro	Leu	Pro	Gly	Thr	Ser	Gln	Tyr	Gly	His	Glu	Arg	Thr	185	190	195	
Ser	Gln	Tyr	Thr	Gly	Thr	Ser	Pro	His	Pro	Ala	Thr	Ser	Pro	Pro				

	200	205	210
Ala Gly Ser Ser Arg Pro Pro Met Gln Leu Asp Ser Thr Ser Ala	215	220	225
Glu Asp Thr Ser Pro Ala Leu Ser Ser Gly Ser Ser Lys Pro Arg	230	235	240
Val Ser Ile Pro Met Val Arg Ile Leu Ala Pro Val Leu Val Leu	245	250	255
Leu Ser Leu Leu Ser Ala Ala Gly Leu Ile Ala Phe Cys Ser His	260	265	270
Leu Leu Leu Trp Arg Lys Glu Ala Gln Gln Ala Thr Glu Thr Gln	275	280	285
Arg Asn Glu Lys Phe Trp Leu Ser Arg Leu Thr Ala Glu Glu Lys	290	295	300
Glu Ala Pro Ser Gln Ala Pro Glu Gly Asp Val Ile Ser Met Pro	305	310	315
Pro Leu His Thr Ser Glu Glu Glu Leu Gly Phe Ser Lys Phe Val	320	325	330
Ser Ala			

<210> 217

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 217

ccctgcagtg cacctacagg gaag 24

<210> 218

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 218

ctgtcttccc ctgcttggct gtgg 24

<210> 219

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 219

ggtgcaggaa ggggtgggatc ctcttctctc gctgctctgg ccacatc 47

<210> 220

<211> 950

<212> DNA

<213> Homo sapiens

<400> 220

ttgtgactaa aagctggcct agcaggccag ggagtgcagc tgcaggcgtg 50
ggggtggcag gagccgcaga gccagagcag acagccgaga aacagggtga 100
cagtgtgaaa gaaccagtgg tctcgctctg ttgccagggc tagagtgtac 150
tggcgtgatc atagctcact gcagcctcag actcctggac ttgagaaatc 200
ctcctgcctt agcctcctgc atatctggga ctccaggggt gcactcaagc 250
cctgtttctt ctcttctgt gagtggacca cggaggctgg tgagctgcct 300
gtcatcccaa agctcagctc tgagccagag tgggtggtggc tccacctctg 350
ccgccggcat agaagccagg agcagggtc tcagaaggcg gtggtgccca 400
gctgggatca tgttgttggc cctggtctgt ctgctcagct gcctgctacc 450
ctccagttag gccaaagctct acggctggtt tgaactggcc agagtgtac 500
atgacttcgg gctggacgga taccggggat acagcctggc tgactgggtc 550
tgccttgctt atttcacaag cggtttcaac gcagctgctt tggactacga 600
ggctgatggg agcaccaaca acgggatctt ccagatcaac agccggaggt 650
ggtgcagcaa cctcaccocg aacgtcccca acgtgtgccg gatgtactgc 700
tcagatttgt tgaatcctaa tctcaaggat accgttatct gtgccatgaa 750
gataacccaa gagcctcagg gtctgggtta ctgggaggcc tggaggcatc 800
actgccaggg aaaagacctc actgaatggg tggatggctg tgacttctag 850
gatggacgga accatgcaca gcaggctggg aaatgtggtt tggttcctga 900
cctaggcttg ggaagacaag ccagcgaata aaggatggtt gaacgtgaaa 950

<210> 221

<211> 146

<212> PRT

<213> Homo sapiens

<400> 221

Met	Leu	Leu	Ala	Leu	Val	Cys	Leu	Leu	Ser	Cys	Leu	Leu	Pro	Ser
1				5					10					15
Ser	Glu	Ala	Lys	Leu	Tyr	Gly	Arg	Cys	Glu	Leu	Ala	Arg	Val	Leu
				20					25					30

His	Asp	Phe	Gly	Leu	Asp	Gly	Tyr	Arg	Gly	Tyr	Ser	Leu	Ala	Asp
				35					40					45
Trp	Val	Cys	Leu	Ala	Tyr	Phe	Thr	Ser	Gly	Phe	Asn	Ala	Ala	Ala
				50					55					60
Leu	Asp	Tyr	Glu	Ala	Asp	Gly	Ser	Thr	Asn	Asn	Gly	Ile	Phe	Gln
				65					70					75
Ile	Asn	Ser	Arg	Arg	Trp	Cys	Ser	Asn	Leu	Thr	Pro	Asn	Val	Pro
				80					85					90
Asn	Val	Cys	Arg	Met	Tyr	Cys	Ser	Asp	Leu	Leu	Asn	Pro	Asn	Leu
				95					100					105
Lys	Asp	Thr	Val	Ile	Cys	Ala	Met	Lys	Ile	Thr	Gln	Glu	Pro	Gln
				110					115					120
Gly	Leu	Gly	Tyr	Trp	Glu	Ala	Trp	Arg	His	His	Cys	Gln	Gly	Lys
				125					130					135
Asp	Leu	Thr	Glu	Trp	Val	Asp	Gly	Cys	Asp	Phe				
				140					145					

<210> 222

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 222

gggatcatgt tggtagccct ggta 24

<210> 223

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 223

gcaaggcaga cccagtcagc cag 23

<210> 224

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 224

ctgcctgcta ccctccaagt gaggccaagc tctacggctcg ttgtg 45

<210> 225

<211> 2049
<212> DNA
<213> Homo sapiens

<400> 225
agccgctgcc ccggggccggg cggccgcggc ggcaccatga gtccccgctc 50
gtgcctgcgt tcgctgcgcc tcctcgtctt cgccgtcttc tcagccgccg 100
cgagcaactg gctgtacctg gccaaagctgt cgtcgggtggg gagcatctca 150
gaggaggaga cgtgcgagaa actcaagggc ctgatccaga ggcaggtgca 200
gatgtgcaag cggaacctgg aagtcattga ctccgtgcgc cgcggtgccc 250
agctggccat tgaggagtgc cagtaccagt tccggaaccg gcgctggaac 300
tgctccacac tcgactcctt gcccgtcttc ggcaaggtgg tgacgcaagg 350
gactcgggag gcggccttcg tgtacgcat ctcttcggca ggtgtggcct 400
ttgcagtgac gcgggctgac agcagtgggg agctggagaa gtgcggctgt 450
gacaggacag tgcattgggt cagcccacag ggcttcacgt ggtcaggatg 500
ctctgacaac atcgccctac gtgtggcctt ctacagtcg tttgtggatg 550
tgccgggagag aagcaagggg gcctcgtcca gcagagccct catgaacctc 600
cacaacaatg aggccggcag gaaggccatc ctgacacaca tgcgggtgga 650
atgcaagtgc cacggggtgt caggctcctg tgaggtaaag acgtgctggc 700
gagccgtgcc gcccttcgcg cagggtgggtc acgcactgaa ggagaagttt 750
gatggtgcca ctgagggtga gccacgccgc gtgggctcct ccagggcact 800
ggtaccacgc aacgcacagt tcaagccgca cacagatgag gacctggtgt 850
acttgagacc tagccccgac ttctgtgagc aggacatgcg cagcggcgtg 900
ctgggcacga ggggccgcac atgcaacaag acgtccaagg ccatcgacgg 950
ctgtgagctg ctgtgctgtg gccgcggctt ccacacggcg cagggtggagc 1000
tggctgaacg ctgcagctgc aaattccact ggtgctgctt cgtcaagtgc 1050
cggcagtgcc agcggctcgt ggagttgcac acgtgccgat gaccgcctgc 1100
ctagccctgc gccggcaacc acctagtggc ccagggaagg ccgataattt 1150
aaacagtctc ccaccaccta cccaagaga tactggttgt attttttgtt 1200
ctggttttgt ttttgggtcc tcatgttatt tattgccgaa accaggcagg 1250
caacccaag ggcaccaacc agggcctccc caaagcctgg gcctttgtgg 1300
ctgccactga ccaaagggac ctgtctcgtg ccgctggctg cccgcatgtg 1350

gctgccactg accactcagt tgttatctgt gtccgttttt ctacttgacg 1400
acctaagggtg gagtaacaag gagtattacc accacatggc tactgaccgt 1450
gtcatcggggg aagaggggggc cttatggcag ggaaaatagg taccgacttg 1500
atggaagtca caccctctgg aaaaaagaac tcttaactct ccagcacaca 1550
tacacatgga ctcttggcag cttgagccta gaagccatgt ctctcaaagt 1600
ccctgagaaa gggaacaagc agataccagg tcaagggcac caggttcatt 1650
tcagccctta catggacagc tagaggttcg atatctgtgg gtccttccag 1700
gcaagaagag ggagatgaga gcaagagacg actgaagtcc caccctagaa 1750
cccagcctgc cccagcctgc cctgggaag aggaaactta accactcccc 1800
agaccacact aggcaggcat ataggctgcc atcctggacc agggatcccc 1850
gctgtgcctt tgcagtcatg cccgagtcac ctttcacagc gctgttcctc 1900
catgaaactg aaaaacacac acacacacac acacacacac acacacacac 1950
acacacacac ggacacacac acacacctgc gagagagagg gaggaaaggg 2000
ctgtgccttt gcagtcatgc ccgagtcacc tttcacagca ctgttcctc 2049

<210> 226
<211> 351
<212> PRT
<213> Homo sapiens

<400> 226
Met Ser Pro Arg Ser Cys Leu Arg Ser Leu Arg Leu Leu Val Phe
1 5 10 15
Ala Val Phe Ser Ala Ala Ala Ser Asn Trp Leu Tyr Leu Ala Lys
20 25 30
Leu Ser Ser Val Gly Ser Ile Ser Glu Glu Glu Thr Cys Glu Lys
35 40 45
Leu Lys Gly Leu Ile Gln Arg Gln Val Gln Met Cys Lys Arg Asn
50 55 60
Leu Glu Val Met Asp Ser Val Arg Arg Gly Ala Gln Leu Ala Ile
65 70 75
Glu Glu Cys Gln Tyr Gln Phe Arg Asn Arg Arg Trp Asn Cys Ser
80 85 90
Thr Leu Asp Ser Leu Pro Val Phe Gly Lys Val Val Thr Gln Gly
95 100 105
Thr Arg Glu Ala Ala Phe Val Tyr Ala Ile Ser Ser Ala Gly Val
110 115 120

Ala	Phe	Ala	Val	Thr 125	Arg	Ala	Cys	Ser	Ser 130	Gly	Glu	Leu	Glu	Lys 135
Cys	Gly	Cys	Asp	Arg 140	Thr	Val	His	Gly	Val 145	Ser	Pro	Gln	Gly	Phe 150
Gln	Trp	Ser	Gly	Cys 155	Ser	Asp	Asn	Ile	Ala 160	Tyr	Gly	Val	Ala	Phe 165
Ser	Gln	Ser	Phe	Val 170	Asp	Val	Arg	Glu	Arg 175	Ser	Lys	Gly	Ala	Ser 180
Ser	Ser	Arg	Ala	Leu 185	Met	Asn	Leu	His	Asn 190	Asn	Glu	Ala	Gly	Arg 195
Lys	Ala	Ile	Leu	Thr 200	His	Met	Arg	Val	Glu 205	Cys	Lys	Cys	His	Gly 210
Val	Ser	Gly	Ser	Cys 215	Glu	Val	Lys	Thr	Cys 220	Trp	Arg	Ala	Val	Pro 225
Pro	Phe	Arg	Gln	Val 230	Gly	His	Ala	Leu	Lys 235	Glu	Lys	Phe	Asp	Gly 240
Ala	Thr	Glu	Val	Glu 245	Pro	Arg	Arg	Val	Gly 250	Ser	Ser	Arg	Ala	Leu 255
Val	Pro	Arg	Asn	Ala 260	Gln	Phe	Lys	Pro	His 265	Thr	Asp	Glu	Asp	Leu 270
Val	Tyr	Leu	Glu	Pro 275	Ser	Pro	Asp	Phe	Cys 280	Glu	Gln	Asp	Met	Arg 285
Ser	Gly	Val	Leu	Gly 290	Thr	Arg	Gly	Arg	Thr 295	Cys	Asn	Lys	Thr	Ser 300
Lys	Ala	Ile	Asp	Gly 305	Cys	Glu	Leu	Leu	Cys 310	Cys	Gly	Arg	Gly	Phe 315
His	Thr	Ala	Gln	Val 320	Glu	Leu	Ala	Glu	Arg 325	Cys	Ser	Cys	Lys	Phe 330
His	Trp	Cys	Cys	Phe 335	Val	Lys	Cys	Arg	Gln 340	Cys	Gln	Arg	Leu	Val 345
Glu	Leu	His	Thr	Cys 350	Arg									

<210> 227

<211> 23

<212> DNA

<213> Artificial Sequence

 $\langle 220 \rangle$

<223> Synthetic oligonucleotide probe

<400> 227

gctgcagctg caaattccac tgg 23

<210> 228
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 228
tgggtgggaga ctgttttaa at tatcggcc 28

<210> 229
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 229
tgcttcgtca agtgccggca gtgccagcgg ctcgtggagt t 41

<210> 230
<211> 1355
<212> DNA
<213> Homo sapiens

<400> 230
cggacgcgtg ggcggacgcg tgggcggacg cgtgggcgga cgcgtgggct 50
gggtgcctgc atcgccatgg acaccaccag gtacagcaag tggggcggca 100
gctccgagga ggtccccgga gggccctggg gacgctgggt gcaactggagc 150
aggagacccc tcttcttggc cctggctgtc ctggtcacca cagtcctttg 200
ggctgtgatt ctgagtatcc tattgtccaa ggcctccacg gagcgcgcgg 250
cgctgcttga cggccacgac ctgctgagga caaacgcctc gaagcagacg 300
gcggcgctgg gtgccctgaa ggaggaggtc ggagactgcc acagctgctg 350
ctcggggacg caggcgcagc tgcagaccac gcgcgcggag cttggggagg 400
cgcaggcgaa gctgatggag caggagagcg ccctgcggga actgcgtgag 450
cgcgtgaccc agggcttggc tgaagccggc aggggccgtg aggacgtccg 500
cactgagctg ttccggggcg tggaggccgt gaggtccag aacaactcct 550
gcgagccgtg cccacgtcg tggctgtcct tcgagggctc ctgctacttt 600
ttctctgtgc caaagacgac gtgggcggcg gcgcaggatc actgcgcaga 650
tgccagcgcg cacctggtga tcgttggggg cctggatgag cagggcttcc 700
tcactcgga cagcgtggc cgtggttact ggctgggcct gagggctgtg 750

cgccatctgg gcaaggttca gggctaccag tgggtggacg gagtctctct 800
cagcttcagc cactggaacc agggagagcc caatgacgct tgggggcgcg 850
agaactgtgt catgatgctg cacacggggc tgtggaacga cgcaccgtgt 900
gacagcgaga aggacggctg gatctgtgag aaaaggcaca actgctgacc 950
cggcccagtg ccctggagcc gcgcccattg cagcatgtcg tatcctgggg 1000
gctgctcacc tccctggctc ctggagctga ttgccaaaga gtttttttct 1050
tcctcatcca ccgctgctga gtctcagaaa cacttggccc aacatagccc 1100
tgtccagccc agtgccctggg ctctgggacc tccatgccga cctcatccta 1150
actccactca cgcagaccca acctaacctc cactagctcc aaaatccctg 1200
ctoctgcgtc cccgtgatat gcctccactt ctctccctaa ccaaggttag 1250
gtgactgagg actggagctg tttggttttc tcgcattttc caccaaactg 1300
gaagctgttt ttgcagcctg aggaagcatc aataaatatt tgagaaatga 1350
aaaaa 1355

<210> 231
<211> 293
<212> PRT
<213> Homo sapiens

<400> 231
Met Asp Thr Thr Arg Tyr Ser Lys Trp Gly Gly Ser Ser Glu Glu
1 5 10 15
Val Pro Gly Gly Pro Trp Gly Arg Trp Val His Trp Ser Arg Arg
20 25 30
Pro Leu Phe Leu Ala Leu Ala Val Leu Val Thr Thr Val Leu Trp
35 40 45
Ala Val Ile Leu Ser Ile Leu Leu Ser Lys Ala Ser Thr Glu Arg
50 55 60
Ala Ala Leu Leu Asp Gly His Asp Leu Leu Arg Thr Asn Ala Ser
65 70 75
Lys Gln Thr Ala Ala Leu Gly Ala Leu Lys Glu Glu Val Gly Asp
80 85 90
Cys His Ser Cys Cys Ser Gly Thr Gln Ala Gln Leu Gln Thr Thr
95 100 105
Arg Ala Glu Leu Gly Glu Ala Gln Ala Lys Leu Met Glu Gln Glu
110 115 120
Ser Ala Leu Arg Glu Leu Arg Glu Arg Val Thr Gln Gly Leu Ala
125 130 135

Glu	Ala	Gly	Arg	Gly	Arg	Glu	Asp	Val	Arg	Thr	Glu	Leu	Phe	Arg	
				140					145					150	
Ala	Leu	Glu	Ala	Val	Arg	Leu	Gln	Asn	Asn	Ser	Cys	Glu	Pro	Cys	
				155					160					165	
Pro	Thr	Ser	Trp	Leu	Ser	Phe	Glu	Gly	Ser	Cys	Tyr	Phe	Phe	Ser	
				170					175					180	
Val	Pro	Lys	Thr	Thr	Trp	Ala	Ala	Ala	Gln	Asp	His	Cys	Ala	Asp	
				185					190					195	
Ala	Ser	Ala	His	Leu	Val	Ile	Val	Gly	Gly	Leu	Asp	Glu	Gln	Gly	
				200					205					210	
Phe	Leu	Thr	Arg	Asn	Thr	Arg	Gly	Arg	Gly	Tyr	Trp	Leu	Gly	Leu	
				215					220					225	
Arg	Ala	Val	Arg	His	Leu	Gly	Lys	Val	Gln	Gly	Tyr	Gln	Trp	Val	
				230					235					240	
Asp	Gly	Val	Ser	Leu	Ser	Phe	Ser	His	Trp	Asn	Gln	Gly	Glu	Pro	
				245					250					255	
Asn	Asp	Ala	Trp	Gly	Arg	Glu	Asn	Cys	Val	Met	Met	Leu	His	Thr	
				260					265					270	
Gly	Leu	Trp	Asn	Asp	Ala	Pro	Cys	Asp	Ser	Glu	Lys	Asp	Gly	Trp	
				275					280					285	
Ile	Cys	Glu	Lys	Arg	His	Asn	Cys								
				290											

<210> 232

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 232

gcgagaactg tgtcatgatg ctgc 24

<210> 233

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 233

gtttctgaga ctcagcagcg gtgg 24

<210> 234

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 234

caccgtgtga cagcgagaag gacggctgga tctgtgagaa aaggcacaac 50

<210> 235

<211> 1847

<212> DNA

<213> Homo sapiens

<400> 235

gccaggggaa gagggatgatc cgacccgggg aaggtcgctg ggcagggcga 50

gttgggaaag cggcagcccc cgccgcccc gcagcccctt ctctctcttt 100

ctcccacgtc ctatctgcct ctgctggag gccaggccgt gcagcatcga 150

agacaggagg aactggagcc tcattggccg gcccgggcg ccggcctcgg 200

gcttaaataag gagctccggg ctctggctgg gacccgaccg ctgccggccg 250

cgctcccgt gtcctgccg ggtgatggaa aaccccagcc cggccgccgc 300

cctgggcaag gccctctgcg ctctctcct ggccactctc ggcgccgccg 350

gccagcctct tgggggagag tccatctgtt ccgccagagc cccggccaaa 400

tacagcatca ccttcacggg caagtggagc cagacggcct tccccagca 450

gtaccccctg ttccgcccc ctgcgcagtg gtcttcgctg ctggggggccg 500

cgcatagtc cgactacagc atgtggagga agaaccagta cgtcagtaac 550

gggctgcgcg actttgcgga gcgcggcgag gcctgggcgc tgatgaagga 600

gatcgaggcg gcgggggagg cgctgcagag cgtgcacgag gtgttttcgg 650

cgcccgccgt cccagcggc accgggcaga cgtcggcgga gctggagggtg 700

cagcgcaggc actcgtgtgt ctgcttctgt gtgcgcacg tgcccagccc 750

cgactgggtc gtgggcgtgg acagcctgga cctgtgcgac ggggaccgtt 800

ggcgggaaca ggcggcgctg gacctgtacc cctacgacgc cgggacggac 850

agcggcttca ccttctctc ccccaacttc gccaccatcc cgcaggacac 900

ggtgaccgag ataacgtcct cctctcccag ccacccggcc aactccttct 950

actacccgcg gctgaaggcc ctgcctcca tcgccagggt gacactgctg 1000

cggctgcgac agagccccag ggccttcac cctcccgccc cagtccctgcc 1050

cagcagggac aatgagattg tagacagcgc ctcaattcca gaaacgccgc 1100

tggactgcga ggtctccctg tggctcgtcct ggggactgtg cggaggccac 1150
 tgtgggagggc tcgggaccaa gagcaggact cgctacgtcc ggggccagcc 1200
 cgccaacaac gggagcccct gccccgagct cgaagaagag gctgagtgcg 1250
 tccctgataa ctgcgtctaa gaccagagcc ccgcagcccc tggggccccc 1300
 cggagccatg ggggtgtcggg ggctcctgtg caggctcatg ctgcaggcgg 1350
 ccgagggcac aggggggttc gcgctgctcc tgaccgcggt gaggccgcgc 1400
 cgaccatctc tgcactgaag ggccctctgg tggccggcac gggcattggg 1450
 aaacagcctc ctcttttccc aaccttgctt cttagggggcc cccgtgtccc 1500
 gtctgtcttc agcctcctcc tcctgcagga taaagtcac cccaaggctc 1550
 cagctactct aaattatgtc tccttataag ttattgctgc tccaggagat 1600
 tgtccttcat cgtccagggg cctggctccc acgtggttgc agatacctca 1650
 gacctggtgc tctaggctgt gctgagccca ctctcccag ggcgcatcca 1700
 agcggggggcc acttgagaag tgaataaatg gggcggtttc ggaagcgtca 1750
 gtgtttccat gttatggatc tctctgcgtt tgaataaaga ctatctctgt 1800
 tgotcacaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa 1847

<210> 236

<211> 331

<212> PRT

<213> Homo sapiens

<400> 236

Met	Glu	Asn	Pro	Ser	Pro	Ala	Ala	Ala	Leu	Gly	Lys	Ala	Leu	Cys
1				5					10					15
Ala	Leu	Leu	Leu	Ala	Thr	Leu	Gly	Ala	Ala	Gly	Gln	Pro	Leu	Gly
				20					25					30
Gly	Glu	Ser	Ile	Cys	Ser	Ala	Arg	Ala	Pro	Ala	Lys	Tyr	Ser	Ile
				35					40					45
Thr	Phe	Thr	Gly	Lys	Trp	Ser	Gln	Thr	Ala	Phe	Pro	Lys	Gln	Tyr
				50					55					60
Pro	Leu	Phe	Arg	Pro	Pro	Ala	Gln	Trp	Ser	Ser	Leu	Leu	Gly	Ala
				65					70					75
Ala	His	Ser	Ser	Asp	Tyr	Ser	Met	Trp	Arg	Lys	Asn	Gln	Tyr	Val
				80					85					90
Ser	Asn	Gly	Leu	Arg	Asp	Phe	Ala	Glu	Arg	Gly	Glu	Ala	Trp	Ala
				95					100					105
Leu	Met	Lys	Glu	Ile	Glu	Ala	Ala	Gly	Glu	Ala	Leu	Gln	Ser	Val

				110					115					120
His	Glu	Val	Phe	Ser 125	Ala	Pro	Ala	Val	Pro 130	Ser	Gly	Thr	Gly	Gln 135
Thr	Ser	Ala	Glu	Leu 140	Glu	Val	Gln	Arg	Arg 145	His	Ser	Leu	Val	Ser 150
Phe	Val	Val	Arg	Ile 155	Val	Pro	Ser	Pro	Asp 160	Trp	Phe	Val	Gly	Val 165
Asp	Ser	Leu	Asp	Leu 170	Cys	Asp	Gly	Asp	Arg 175	Trp	Arg	Glu	Gln	Ala 180
Ala	Leu	Asp	Leu	Tyr 185	Pro	Tyr	Asp	Ala	Gly 190	Thr	Asp	Ser	Gly	Phe 195
Thr	Phe	Ser	Ser	Pro 200	Asn	Phe	Ala	Thr	Ile 205	Pro	Gln	Asp	Thr	Val 210
Thr	Glu	Ile	Thr	Ser 215	Ser	Ser	Pro	Ser	His 220	Pro	Ala	Asn	Ser	Phe 225
Tyr	Tyr	Pro	Arg	Leu 230	Lys	Ala	Leu	Pro	Pro 235	Ile	Ala	Arg	Val	Thr 240
Leu	Leu	Arg	Leu	Arg 245	Gln	Ser	Pro	Arg	Ala 250	Phe	Ile	Pro	Pro	Ala 255
Pro	Val	Leu	Pro	Ser 260	Arg	Asp	Asn	Glu	Ile 265	Val	Asp	Ser	Ala	Ser 270
Val	Pro	Glu	Thr	Pro 275	Leu	Asp	Cys	Glu	Val 280	Ser	Leu	Trp	Ser	Ser 285
Trp	Gly	Leu	Cys	Gly 290	Gly	His	Cys	Gly	Arg 295	Leu	Gly	Thr	Lys	Ser 300
Arg	Thr	Arg	Tyr	Val 305	Arg	Val	Gln	Pro	Ala 310	Asn	Asn	Gly	Ser	Pro 315
Cys	Pro	Glu	Leu	Glu 320	Glu	Glu	Ala	Glu	Cys 325	Val	Pro	Asp	Asn	Cys 330

Val

<210> 237

<211> 22

<212> DNA

<213> Artificial Sequence

 $\langle 220 \rangle$

<223> Synthetic oligonucleotide probe

<400> 237

cagcactgcc aggggaagag gg 22

<210> 238
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 238
caggactcgc tacgtccg 18

<210> 239
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 239
cagcccccttc tcctcctttc tccc 24

<210> 240
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 240
gcagttatca gggacgcact cagcc 25

<210> 241
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 241
ccagcgagag gcagatag 18

<210> 242
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 242
cggtcaccgt gtctgcggg atg 23

<210> 243
<211> 42
<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 243

cagcccccttc tcctcctttc tcccacgtcc tatctgcctc tc 42

<210> 244

<211> 1894

<212> DNA

<213> Homo sapiens

<400> 244

ggcggcgtcc gtgagggggt cctttgggca ggggtagtgt ttgggtgtccc 50
tgtcttgctg gatattgaca aactgaagct ttctgcacc actggactta 100
aggaagagtg tactcgtagg cggacagctt tagtggccgg ccggccgctc 150
tcatcccccg taaggagcag agtcctttgt actgaccaag atgagcaaca 200
tctacatcca ggagcctccc acgaatggga aggttttatt gaaaactaca 250
gctggagata ttgacataga gttgtgggtcc aaagaagctc ctaaagcttg 300
cagaaatfff atccaactff gtttgaagc ttattatgac aataccatff 350
ttcatagagt tgtgcctggt ttcatagtcc aaggcggaga tcctactggc 400
acagggagtg gtggagagtc tatctatgga gcgccattca aagatgaatt 450
tcattcacgg ttgcgtffta atcgagagg actggttgcc atggcaaatg 500
ctggtttctca tgataatggc agccagttff tcttcacact gggtcgagca 550
gatgaactta acaataagca taccatctff ggaaaggffa caggggatac 600
agtatataac atgttgcgac tgtcagaagt agacattgat gatgacgaaa 650
gaccacataa tccacacaaa ataaaaagct gtgaggttff gtttaatcct 700
tttgatgaca tcattccaag ggaaattaaa aggctgaaaa aagagaaacc 750
agaggaggaa gtaaagaaat tgaaacccaa aggcacaaaa aatffftagtt 800
tactfftcatt tggagaggaa gctgaggaag aagaggagga agtaaatcga 850
gttagtcaga gcatgaaggg caaaagcaaa agtagtcatg acttgcttaa 900
ggatgatcca catctcagtt ctgttccagt tgtagaaagt gaaaaagggtg 950
atgcaccaga tfftagttgat gatggagaag atgaaagtgc agagcatgat 1000
gaatatattg atgggtgatga aaagaacctg atgagagaaa gaattgccaa 1050
aaaattaaaa aaggacacaa gtgcgaatgt taaatcagct ggagaaggag 1100

aagtggagaa gaaatcagtc agccgcagtg aagagctcag aaaagaagca 1150
agacaattaa aacgggaact cttagcagca aaacaaaaaa aagtagaaaa 1200
tgcagcaaaa caagcagaaa aaagaagtga agaggaagaa gcccctccag 1250
atggtgctgt tgccgaatac agaagagaaa agcaaaagta tgaagctttg 1300
aggaagcaac agtcaaagaa gggaaacttcc cgggaagatc agacccttgc 1350
actgctgaac cagtttaaat ctaaactcac tcaagcaatt gctgaaacac 1400
ctgaaaatga cattcctgaa acagaagtag aagatgatga aggatggatg 1450
tcacatgtac ttcagtttga ggataaaagc agaaaagtga aagatgcaag 1500
catgcaagac tcagatacat ttgaaatcta tgatcctcgg aatccagtga 1550
ataaaagaag gaggggaagaa agcaaaaagc tgatgagaga gaaaaaagaa 1600
agaagataaa atgagaataa tgataaccag aacttgctgg aaatgtgcct 1650
acaatggcct tgtaacagcc attgttccca acagcatcac ttaggggtgt 1700
gaaaagaagt atttttgaac ctgttgtctg gttttgaaaa acaattatct 1750
tgttttgcaa attgtggaat gatgtaagca aatgcttttg gttactggta 1800
catgtgtttt ttcttagctg accttttata ttgctaaatc tgaaataaaa 1850
taactttcct tccacaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 1894

<210> 245

<211> 472

<212> PRT

<213> Homo sapiens

<400> 245

Met	Ser	Asn	Ile	Tyr	Ile	Gln	Glu	Pro	Pro	Thr	Asn	Gly	Lys	Val
1				5					10					15

Leu	Leu	Lys	Thr	Thr	Ala	Gly	Asp	Ile	Asp	Ile	Glu	Leu	Trp	Ser
			20					25						30

Lys	Glu	Ala	Pro	Lys	Ala	Cys	Arg	Asn	Phe	Ile	Gln	Leu	Cys	Leu
			35					40						45

Glu	Ala	Tyr	Tyr	Asp	Asn	Thr	Ile	Phe	His	Arg	Val	Val	Pro	Gly
			50					55						60

Phe	Ile	Val	Gln	Gly	Gly	Asp	Pro	Thr	Gly	Thr	Gly	Ser	Gly	Gly
			65					70						75

Glu	Ser	Ile	Tyr	Gly	Ala	Pro	Phe	Lys	Asp	Glu	Phe	His	Ser	Arg
			80					85						90

Leu	Arg	Phe	Asn	Arg	Arg	Gly	Leu	Val	Ala	Met	Ala	Asn	Ala	Gly
			95					100						105

Ser	His	Asp	Asn	Gly	Ser	Gln	Phe	Phe	Phe	Thr	Leu	Gly	Arg	Ala	
				110					115					120	
Asp	Glu	Leu	Asn	Asn	Lys	His	Thr	Ile	Phe	Gly	Lys	Val	Thr	Gly	
				125					130					135	
Asp	Thr	Val	Tyr	Asn	Met	Leu	Arg	Leu	Ser	Glu	Val	Asp	Ile	Asp	
				140					145					150	
Asp	Asp	Glu	Arg	Pro	His	Asn	Pro	His	Lys	Ile	Lys	Ser	Cys	Glu	
				155					160					165	
Val	Leu	Phe	Asn	Pro	Phe	Asp	Asp	Ile	Ile	Pro	Arg	Glu	Ile	Lys	
				170					175					180	
Arg	Leu	Lys	Lys	Glu	Lys	Pro	Glu	Glu	Glu	Val	Lys	Lys	Leu	Lys	
				185					190					195	
Pro	Lys	Gly	Thr	Lys	Asn	Phe	Ser	Leu	Leu	Ser	Phe	Gly	Glu	Glu	
				200					205					210	
Ala	Glu	Glu	Glu	Glu	Glu	Glu	Val	Asn	Arg	Val	Ser	Gln	Ser	Met	
				215					220					225	
Lys	Gly	Lys	Ser	Lys	Ser	Ser	His	Asp	Leu	Leu	Lys	Asp	Asp	Pro	
				230					235					240	
His	Leu	Ser	Ser	Val	Pro	Val	Val	Glu	Ser	Glu	Lys	Gly	Asp	Ala	
				245					250					255	
Pro	Asp	Leu	Val	Asp	Asp	Gly	Glu	Asp	Glu	Ser	Ala	Glu	His	Asp	
				260					265					270	
Glu	Tyr	Ile	Asp	Gly	Asp	Glu	Lys	Asn	Leu	Met	Arg	Glu	Arg	Ile	
				275					280					285	
Ala	Lys	Lys	Leu	Lys	Lys	Asp	Thr	Ser	Ala	Asn	Val	Lys	Ser	Ala	
				290					295					300	
Gly	Glu	Gly	Glu	Val	Glu	Lys	Lys	Ser	Val	Ser	Arg	Ser	Glu	Glu	
				305					310					315	
Leu	Arg	Lys	Glu	Ala	Arg	Gln	Leu	Lys	Arg	Glu	Leu	Leu	Ala	Ala	
				320					325					330	
Lys	Gln	Lys	Lys	Val	Glu	Asn	Ala	Ala	Lys	Gln	Ala	Glu	Lys	Arg	
				335					340					345	
Ser	Glu	Glu	Glu	Glu	Ala	Pro	Pro	Asp	Gly	Ala	Val	Ala	Glu	Tyr	
				350					355					360	
Arg	Arg	Glu	Lys	Gln	Lys	Tyr	Glu	Ala	Leu	Arg	Lys	Gln	Gln	Ser	
				365					370					375	
Lys	Lys	Gly	Thr	Ser	Arg	Glu	Asp	Gln	Thr	Leu	Ala	Leu	Leu	Asn	
				380					385					390	
Gln	Phe	Lys	Ser	Lys	Leu	Thr	Gln	Ala	Ile	Ala	Glu	Thr	Pro	Glu	

	395		400		405
Asn Asp Ile Pro	Glu Thr Glu Val Glu	Asp Asp Glu Gly Trp	Met		
	410	415	420		
Ser His Val Leu	Gln Phe Glu Asp Lys	Ser Arg Lys Val Lys	Asp		
	425	430	435		
Ala Ser Met Gln	Asp Ser Asp Thr Phe	Glu Ile Tyr Asp Pro	Arg		
	440	445	450		
Asn Pro Val Asn	Lys Arg Arg Arg Glu	Glu Ser Lys Lys Leu	Met		
	455	460	465		
Arg Glu Lys Lys	Glu Arg Arg				
	470				

<210> 246

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 246

tgcgagatc ctactggcac aggg 24

<210> 247

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 247

cgagttagtc agagcatg 18

<210> 248

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 248

cagatggtgc tgttgccg 18

<210> 249

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 249
caactggaac aggaactgag atgtggatc 29

<210> 250

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 250

ctggttcagc agtgaaggg tctg 24

<210> 251

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 251

cctctccgat taaaacgc 18

<210> 252

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 252

gagaggactg gttgccatgg caaatgctgg ttctcatgat aatgg 45

<210> 253

<211> 2456

<212> DNA

<213> Homo sapiens

<400> 253

cgccgccgtt ggggctggaa gttcccgccca ggtccgtgcc gggcgagaga 50

gatgctgccc ggcccgcctc ggctttgagg cgagagaagt gtcccagacc 100

catttcgcct tgctgacggc gtcgagccct ggccagacat gtccacaggg 150

ttctccttcg ggtccggggac tctgggctcc accaccgtgg ccgccggcgg 200

gaccagcaca ggcggcggtt tctccttcgg aacgggaacg tctagcaacc 250

cttctgtggg gctcaatttt ggaaatcttg gaagtacttc aactccagca 300

actacatctg ctcttcaag tggttttgga accgggctct ttggatctaa 350

acctgccact gggttcactc taggaggaac aaatacaggt gccttgaca 400

ccaagaggcc tcaagtggtc accaaatatg gaaccctgca aggaaaacag 450
 atgcatgtgg ggaagacacc catccaagtc tttttaggag tccccttctc 500
 cagacctcct ctaggatatcc tcaggtttgc acctccagaa cccccggagc 550
 cctggaaagg aatcagagat gctaccacct acccgctgg atggagtctc 600
 gctctgtcgc caggctggag tgcagtggca cgatctcggc tactgcaac 650
 ctccgcctcc cgggttcaag cgagtctcct gcctcagcct ctgagtgtct 700
 ggggctacag gtgcctgcag gagtcctggg gccagctggc ctcgatgtac 750
 gtcagcacgc gggaacggta caagtggctg cgcttcagcg aggactgtct 800
 gtacctgaac gtgtacgcgc cggcgcgcg gcgcggggat cccagctgc 850
 cagtgatggt ctggttcccg ggaggcgct tcatcgtgg cgctgcttct 900
 tcgtacgagg gctctgactt ggccgcccgc gagaaagtgg tgctggtgtt 950
 tctgcagcac aggctcgga tcttcggctt cctgagcacg gacgacagcc 1000
 acgcgcgcgg gaactggggg ctgctggacc agatggcggc tctgcgctgg 1050
 gtgcaggaga acatcgagc cttcggggga gaccaggaa atgtgacct 1100
 gttcggccag tcggcggggg ccatgagcat ctcaggactg atgatgtcac 1150
 ccctagcctc gggctctctc catcgggcca tttcccagag tggcaccgcg 1200
 ttattcagac ttttcatcac tagtaacca ctgaaagtgg ccaagaaggt 1250
 tgcccacctg gctggatgca accacaacag cacacagatc ctggtaaact 1300
 gcctgagggc actatcaggg accaaggtga tgcgtgtgtc caacaagatg 1350
 agattcctcc aactgaactt ccagagagac ccggaagaga ttatctggtc 1400
 catgagccct gtggtggatg gtgtggtgat ccagatgac cctttggtgc 1450
 tcctgacca ggggaaggtt tcactgtgtc cctaccttct aggtgtcaac 1500
 aacctggaat tcaattggct cttgccttat aatatacca aggagcaggt 1550
 accacttggt gtggaggagt acctggacaa tgtcaatgag catgactgga 1600
 agatgctacg aaaccgtatg atggacatag ttcaagatgc cactttcgtg 1650
 tatgccacac tgcagactgc tctactaccac cgagaaaccc caatgatggg 1700
 aatctgccct gctggccacg ctacaacaag gatgaaaagt acctgcagct 1750
 ggattttacc acaagagtgg gcatgaagct caaggagaag aagatggctt 1800
 tttgatgag tctgtaccag tctcaaagac ctgagaagca gaggcaattc 1850

taagggtggc tatgcaggaa ggagccaaag aggggtttgc ccccaaccatc 1900
 caggccctgg ggagactagc catggacata cctgggggaca agagttctac 1950
 ccaccccagt ttagaactgc aggagctccc tgctgcctcc aggccaaagc 2000
 tagagctttt gcctgtgtg tgggacctgc actgcccttt ccagcctgac 2050
 atcccatgat gcccctctac ttcactgttg acatccagtt aggccaggcc 2100
 ctgtcaacac cacactgtgc tcagctctcc agcctcagga caacctcttt 2150
 tttcccttc ttcaaactct cccacccttc aatgtctcct tgtgactcct 2200
 tcttatggga ggtcgacca gactgccact gccctgtca ctgcaccag 2250
 cttggcattt accatccatc ctgctcaacc ttgttctgt ctgttcacat 2300
 tggcctggag gcctagggca ggttgtaga tggagcaaac ttttggtagt 2350
 ttgggatctt ctctcccacc cacacttacc tccccaggg ccactccaaa 2400
 gtctatacac aggggtgggc tcttcaataa agaagtgttg attagaaaaa 2450
 aaaaaa 2456

<210> 254
 <211> 545
 <212> PRT
 <213> Homo sapiens

<400> 254
 Met Ser Thr Gly Phe Ser Phe Gly Ser Gly Thr Leu Gly Ser Thr
 1 5 10 15
 Thr Val Ala Ala Gly Gly Thr Ser Thr Gly Gly Val Phe Ser Phe
 20 25 30
 Gly Thr Gly Thr Ser Ser Asn Pro Ser Val Gly Leu Asn Phe Gly
 35 40 45
 Asn Leu Gly Ser Thr Ser Thr Pro Ala Thr Thr Ser Ala Pro Ser
 50 55 60
 Ser Gly Phe Gly Thr Gly Leu Phe Gly Ser Lys Pro Ala Thr Gly
 65 70 75
 Phe Thr Leu Gly Gly Thr Asn Thr Gly Ala Leu His Thr Lys Arg
 80 85 90
 Pro Gln Val Val Thr Lys Tyr Gly Thr Leu Gln Gly Lys Gln Met
 95 100 105
 His Val Gly Lys Thr Pro Ile Gln Val Phe Leu Gly Val Pro Phe
 110 115 120
 Ser Arg Pro Pro Leu Gly Ile Leu Arg Phe Ala Pro Pro Glu Pro
 125 130 135

Pro	Glu	Pro	Trp	Lys	Gly	Ile	Arg	Asp	Ala	Thr	Thr	Tyr	Pro	Pro	140	145	150
Gly	Trp	Ser	Leu	Ala	Leu	Ser	Pro	Gly	Trp	Ser	Ala	Val	Ala	Arg	155	160	165
Ser	Arg	Leu	Thr	Ala	Thr	Ser	Ala	Ser	Arg	Val	Gln	Ala	Ser	Leu	170	175	180
Leu	Pro	Gln	Pro	Leu	Ser	Val	Trp	Gly	Tyr	Arg	Cys	Leu	Gln	Glu	185	190	195
Ser	Trp	Gly	Gln	Leu	Ala	Ser	Met	Tyr	Val	Ser	Thr	Arg	Glu	Arg	200	205	210
Tyr	Lys	Trp	Leu	Arg	Phe	Ser	Glu	Asp	Cys	Leu	Tyr	Leu	Asn	Val	215	220	225
Tyr	Ala	Pro	Ala	Arg	Ala	Pro	Gly	Asp	Pro	Gln	Leu	Pro	Val	Met	230	235	240
Val	Trp	Phe	Pro	Gly	Gly	Ala	Phe	Ile	Val	Gly	Ala	Ala	Ser	Ser	245	250	255
Tyr	Glu	Gly	Ser	Asp	Leu	Ala	Ala	Arg	Glu	Lys	Val	Val	Leu	Val	260	265	270
Phe	Leu	Gln	His	Arg	Leu	Gly	Ile	Phe	Gly	Phe	Leu	Ser	Thr	Asp	275	280	285
Asp	Ser	His	Ala	Arg	Gly	Asn	Trp	Gly	Leu	Leu	Asp	Gln	Met	Ala	290	295	300
Ala	Leu	Arg	Trp	Val	Gln	Glu	Asn	Ile	Ala	Ala	Phe	Gly	Gly	Asp	305	310	315
Pro	Gly	Asn	Val	Thr	Leu	Phe	Gly	Gln	Ser	Ala	Gly	Ala	Met	Ser	320	325	330
Ile	Ser	Gly	Leu	Met	Met	Ser	Pro	Leu	Ala	Ser	Gly	Leu	Phe	His	335	340	345
Arg	Ala	Ile	Ser	Gln	Ser	Gly	Thr	Ala	Leu	Phe	Arg	Leu	Phe	Ile	350	355	360
Thr	Ser	Asn	Pro	Leu	Lys	Val	Ala	Lys	Lys	Val	Ala	His	Leu	Ala	365	370	375
Gly	Cys	Asn	His	Asn	Ser	Thr	Gln	Ile	Leu	Val	Asn	Cys	Leu	Arg	380	385	390
Ala	Leu	Ser	Gly	Thr	Lys	Val	Met	Arg	Val	Ser	Asn	Lys	Met	Arg	395	400	405
Phe	Leu	Gln	Leu	Asn	Phe	Gln	Arg	Asp	Pro	Glu	Glu	Ile	Ile	Trp	410	415	420
Ser	Met	Ser	Pro	Val	Val	Asp	Gly	Val	Val	Ile	Pro	Asp	Asp	Pro			

425	430	435
Leu Val Leu Leu Thr Gln Gly Lys Val	Ser Ser Val Pro Tyr Leu	
440	445	450
Leu Gly Val Asn Asn Leu Glu Phe Asn	Trp Leu Leu Pro Tyr Asn	
455	460	465
Ile Thr Lys Glu Gln Val Pro Leu Val	Val Glu Glu Tyr Leu Asp	
470	475	480
Asn Val Asn Glu His Asp Trp Lys Met	Leu Arg Asn Arg Met Met	
485	490	495
Asp Ile Val Gln Asp Ala Thr Phe Val	Tyr Ala Thr Leu Gln Thr	
500	505	510
Ala His Tyr His Arg Glu Thr Pro Met	Met Gly Ile Cys Pro Ala	
515	520	525
Gly His Ala Thr Thr Arg Met Lys Ser	Thr Cys Ser Trp Ile Leu	
530	535	540
Pro Gln Glu Trp Ala		
545		

<210> 255

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 255

aggtgcctgc aggagtcctg ggg 23

<210> 256

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 256

ccacctcagg aagccgaaga tgcc 24

<210> 257

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 257

gaacgtaca agtggctgcy cttcagcgag gactgtctgt acctg 45

<210> 258
<211> 2764
<212> DNA
<213> Homo sapiens

<400> 258
gagaacaggc ctgtctcagg caggccctgc gcctcctatg cggagatgct 50
actgccactg ctgctgtcct cgctgctggg cgggtcccag gctatggatg 100
ggagattctg gatacgagtg caggagtcag tgatggtgcc ggagggcctg 150
tgcattctctg tgccctgctc tttctcctac ccccgacaag actggacagg 200
gtctacccca gcttatggct actggttcaa agcagtgaact gagacaacca 250
agggtgctcc tgtggccaca aaccaccaga gtcgagaggt ggaaatgagc 300
accgggggcc gattccagct cactggggat cccgccaagg ggaactgctc 350
cttggtgatc agagacgcgc agatgcagga tgagtcacag tacttctttc 400
gggtggagag aggaagctat gtgacatata atttcatgaa cgatgggttc 450
tttctaaaag taacagtgtc cagcttcacg cccagacccc aggaccacaa 500
caccgacctc acctgccatg tggacttctc cagaaagggg gtgagcgcac 550
agaggaccgt ccgactccgt gtggcctatg ccccagaga ccttgttatc 600
agcatttcac gtgacaacac gccagccctg gagccccagc cccagggaaa 650
tgtcccatac ctggaagccc aaaaaggcca gttcctgcgg ctctctgtgtg 700
ctgtgacag ccagccccct gccacactga gctgggtcct gcagaacaga 750
gtcctctcct cgtcccatcc ctggggccct agaccctgg ggctggagct 800
gcccggggtg aaggctgggg attcagggcg ctacacctgc cgagcggaga 850
acaggcttgg ctcccagcag cgagccctgg acctctctgt gcagtatcct 900
ccagagaacc tgagagtgat ggtttcccaa gcaaacagga cagtctgga 950
aaaccttggg aacggcacgt ctctcccagt actggagggc caaagcctgt 1000
gcctggtctg tgtcacacac agcagcccc cagccaggct gagctggacc 1050
cagaggggac aggttctgag cccctcccag ccctcagacc ccggggtcct 1100
ggagctgcct cgggttcaag tggagcacga aggagagttc acctgccacg 1150
ctcggcacc actgggtcc cagcacgtct ctctcagcct ctccgtgcac 1200
tataagaagg gactcatctc aacggcattc tccaacggag cgtttctggg 1250
aatcggcatc acggctcttc ttttctctg cctggccctg atcatcatga 1300

agattctacc gaagagacgg actcagacag aaaccccgag gccaggttc 1350
 tcccggcaca gcacgatcct ggattacatc aatgtggtcc cgacggctgg 1400
 cccctgggt cagaagcgga atcagaaagc cacaccaaac agtcctcgga 1450
 cccctcctcc accaggtgct cctccccag aatcaaagaa gaaccagaaa 1500
 aagcagtatc agttgccag tttccagaa cccaaatcat cactcaagc 1550
 cccagaatcc caggagagcc aagaggagct ccattatgcc acgtcaact 1600
 tccagggcgt cagaccagc cctgaggccc ggatgccc aa ggcacccag 1650
 gcggattatg cagaagtcaa gttccaatga gggctcttta ggcttttagga 1700
 ctgggacttc ggctagggag gaaggtagag taagagggtg aagataacag 1750
 agtgcaaagt ttccttctct cctctctct ctctcttct ctctctctct 1800
 ctcttctct ctcttttaaa aaaacatctg gccagggcac agtggctcac 1850
 gcctgtaatc ccagcacttt gggagggtga ggtgggcaga tcgcctgagg 1900
 tcgggagttc gagaccagcc tggccaactt ggtgaaaccc cgtctctact 1950
 aaaaatacaa aaattagctg ggcatggtg caggcgctg taatcctacc 2000
 tacttgggaa gctgaggcag gagaatcact tgaacctggg agacggaggt 2050
 tgcaagtgagc caagatcaca ccattgcac ccagcctggg caacaaagcg 2100
 agactccatc tcaaaaaaaaa aatcctocaa atgggttggg tgtctgtaat 2150
 ccagcactt tgggaggcta aggtgggtg attgcttgag ccaggagtt 2200
 cgagaccagc ctgggcaaca tggtgaaacc ccatctctac aaaaataca 2250
 aaacatagct gggcttggtg gtgtgtgcct gtagtcccag ctgtcagaca 2300
 tttaaaccag agcaactcca tctggaatag gagctgaata aaatgaggct 2350
 gagacctact gggctgcatt ctcagacagt ggaggcattc taagtcacag 2400
 gatgagacag gaggtccgta caagatacag gtcataaaga ctttgctgat 2450
 aaaacagatt gcagtaaaga agccaaccaa atcccaccaa aaccaagttg 2500
 gccacgagag tgacctctgg tgcctctcac tgctacactc ctgacagcac 2550
 catgacagtt tacaatgcc atggcaacat caggaagtta ccgatatgt 2600
 cccaaaaggg ggaggaatga ataatccacc cttgttttag caaataagca 2650
 agaaataacc ataaaagtgg gcaaccagca gctctaggcg ctgctcttgt 2700
 ctatggagta gccattcttt tgttccttta cttctttaat aaacttgctt 2750

tcaccttaaa aaaa 2764

<210> 259

<211> 544

<212> PRT

<213> Homo sapiens

<400> 259

Met	Leu	Leu	Pro	Leu	Leu	Leu	Ser	Ser	Leu	Leu	Gly	Gly	Ser	Gln
1				5					10					15
Ala	Met	Asp	Gly	Arg	Phe	Trp	Ile	Arg	Val	Gln	Glu	Ser	Val	Met
				20					25					30
Val	Pro	Glu	Gly	Leu	Cys	Ile	Ser	Val	Pro	Cys	Ser	Phe	Ser	Tyr
				35					40					45
Pro	Arg	Gln	Asp	Trp	Thr	Gly	Ser	Thr	Pro	Ala	Tyr	Gly	Tyr	Trp
				50					55					60
Phe	Lys	Ala	Val	Thr	Glu	Thr	Thr	Lys	Gly	Ala	Pro	Val	Ala	Thr
				65					70					75
Asn	His	Gln	Ser	Arg	Glu	Val	Glu	Met	Ser	Thr	Arg	Gly	Arg	Phe
				80					85					90
Gln	Leu	Thr	Gly	Asp	Pro	Ala	Lys	Gly	Asn	Cys	Ser	Leu	Val	Ile
				95					100					105
Arg	Asp	Ala	Gln	Met	Gln	Asp	Glu	Ser	Gln	Tyr	Phe	Phe	Arg	Val
				110					115					120
Glu	Arg	Gly	Ser	Tyr	Val	Thr	Tyr	Asn	Phe	Met	Asn	Asp	Gly	Phe
				125					130					135
Phe	Leu	Lys	Val	Thr	Val	Leu	Ser	Phe	Thr	Pro	Arg	Pro	Gln	Asp
				140					145					150
His	Asn	Thr	Asp	Leu	Thr	Cys	His	Val	Asp	Phe	Ser	Arg	Lys	Gly
				155					160					165
Val	Ser	Ala	Gln	Arg	Thr	Val	Arg	Leu	Arg	Val	Ala	Tyr	Ala	Pro
				170					175					180
Arg	Asp	Leu	Val	Ile	Ser	Ile	Ser	Arg	Asp	Asn	Thr	Pro	Ala	Leu
				185					190					195
Glu	Pro	Gln	Pro	Gln	Gly	Asn	Val	Pro	Tyr	Leu	Glu	Ala	Gln	Lys
				200					205					210
Gly	Gln	Phe	Leu	Arg	Leu	Leu	Cys	Ala	Ala	Asp	Ser	Gln	Pro	Pro
				215					220					225
Ala	Thr	Leu	Ser	Trp	Val	Leu	Gln	Asn	Arg	Val	Leu	Ser	Ser	Ser
				230					235					240
His	Pro	Trp	Gly	Pro	Arg	Pro	Leu	Gly	Leu	Glu	Leu	Pro	Gly	Val
				245					250					255

Lys	Ala	Gly	Asp	Ser	Gly	Arg	Tyr	Thr	Cys	Arg	Ala	Glu	Asn	Arg	
				260					265					270	
Leu	Gly	Ser	Gln	Gln	Arg	Ala	Leu	Asp	Leu	Ser	Val	Gln	Tyr	Pro	
				275					280					285	
Pro	Glu	Asn	Leu	Arg	Val	Met	Val	Ser	Gln	Ala	Asn	Arg	Thr	Val	
				290					295					300	
Leu	Glu	Asn	Leu	Gly	Asn	Gly	Thr	Ser	Leu	Pro	Val	Leu	Glu	Gly	
				305					310					315	
Gln	Ser	Leu	Cys	Leu	Val	Cys	Val	Thr	His	Ser	Ser	Pro	Pro	Ala	
				320					325					330	
Arg	Leu	Ser	Trp	Thr	Gln	Arg	Gly	Gln	Val	Leu	Ser	Pro	Ser	Gln	
				335					340					345	
Pro	Ser	Asp	Pro	Gly	Val	Leu	Glu	Leu	Pro	Arg	Val	Gln	Val	Glu	
				350					355					360	
His	Glu	Gly	Glu	Phe	Thr	Cys	His	Ala	Arg	His	Pro	Leu	Gly	Ser	
				365					370					375	
Gln	His	Val	Ser	Leu	Ser	Leu	Ser	Val	His	Tyr	Lys	Lys	Gly	Leu	
				380					385					390	
Ile	Ser	Thr	Ala	Phe	Ser	Asn	Gly	Ala	Phe	Leu	Gly	Ile	Gly	Ile	
				395					400					405	
Thr	Ala	Leu	Leu	Phe	Leu	Cys	Leu	Ala	Leu	Ile	Ile	Met	Lys	Ile	
				410					415					420	
Leu	Pro	Lys	Arg	Arg	Thr	Gln	Thr	Glu	Thr	Pro	Arg	Pro	Arg	Phe	
				425					430					435	
Ser	Arg	His	Ser	Thr	Ile	Leu	Asp	Tyr	Ile	Asn	Val	Val	Pro	Thr	
				440					445					450	
Ala	Gly	Pro	Leu	Ala	Gln	Lys	Arg	Asn	Gln	Lys	Ala	Thr	Pro	Asn	
				455					460					465	
Ser	Pro	Arg	Thr	Pro	Pro	Pro	Pro	Gly	Ala	Pro	Ser	Pro	Glu	Ser	
				470					475					480	
Lys	Lys	Asn	Gln	Lys	Lys	Gln	Tyr	Gln	Leu	Pro	Ser	Phe	Pro	Glu	
				485					490					495	
Pro	Lys	Ser	Ser	Thr	Gln	Ala	Pro	Glu	Ser	Gln	Glu	Ser	Gln	Glu	
				500					505					510	
Glu	Leu	His	Tyr	Ala	Thr	Leu	Asn	Phe	Pro	Gly	Val	Arg	Pro	Arg	
				515					520					525	
Pro	Glu	Ala	Arg	Met	Pro	Lys	Gly	Thr	Gln	Ala	Asp	Tyr	Ala	Glu	
				530					535					540	
Val	Lys	Phe	Gln												

<210> 260
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 260
caaagcctgc gcctggtctg tg 22

<210> 261
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 261
ttctggagcc cagagggtgc tgag 24

<210> 262
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 262
ggagctgccca cccattcaaa tggagcacga aggagagtgc acctg 45

<210> 263
<211> 2857
<212> DNA
<213> Homo sapiens

<400> 263
tgaagagtaa tagttggaat caaaagagtc aacgcaatga actgttattt 50
actgctgcgt tttatgttgg gaattcctct cctatggcct tgtcttggag 100
caacagaaaa ctctcaaaca aagaaagtca agcagccagt gcgatctcat 150
ttgagagtga agcgtggctg ggtgtggaac caattttttg taccagagga 200
aatgaatacg actagtcac acatcggccca gctaagatct gatttagaca 250
atggaaacaa ttctttccag tacaagcttt tgggagctgg agctggaagt 300
aottttatca ttgatgaaag aacaggtgac atatatgccca tacagaagct 350
tgatagagag gagcgatccc tctacatctt aagagcccag gtaatagaca 400
tcgctactgg aagggctgtg gaacctgagt ctgagtttgt catcaaagtt 450

tcggatatca atgacaatga accaaaattc ctagatgaac cttatgaggc 500
 cattgtacca gagatgtctc cagaaggaac attagttatc caggtgacag 550
 caagtgatgc tgacgatccc tcaagtggta ataatgctcg tctcctctac 600
 agcttacttc aaggccagcc atatttttct gttgaaccaa caacaggagt 650
 cataagaata tcttctaaaa tggatagaga actgcaagat gagtattggg 700
 taatcattca agccaaggac atgattggtc agccaggagc gttgtctgga 750
 acaacaagtg tattaattaa actttcagat gttaatgaca ataagcctat 800
 atttaaagaa agtttatacc gcttgactgt ctctgaatct gcacccactg 850
 ggacttctat aggaacaatc atggcatatg ataatgacat aggagagaat 900
 gcagaaatgg attacagcat tgaagaggat gattcgcaaa catttgacat 950
 tattactaat catgaaactc aagaaggaat agttatatta aaaaagaaag 1000
 tggattttga gcaccagaac cactacggta ttagagcaaa agttaaaaac 1050
 catcatgttc ctgagcagct catgaagtac cacactgagg cttccaccac 1100
 tttcattaag atccagggtg aagatgttga tgagcctcct cttttcctcc 1150
 ttccatatta tgtatttgaa gtttttgaag aaaccccaca gggatcattt 1200
 gtaggcgtgg tgtctgccac agaccagac aataggaaat ctcctatcag 1250
 gtattctatt actaggagca aagtgttcaa tatcaatgat aatggtacaa 1300
 tcactacaag taactcactg gatcgtgaaa tcagtgcttg gtacaacct 1350
 agtattacag ccacagaaaa atacaatata gaacagatct cttcgatccc 1400
 actgtatgtg caagttctta acatcaatga tcatgctcct gagttctctc 1450
 aatactatga gacttatgtt tgtgaaaatg caggctctgg tcaggtaatt 1500
 cagactatca gtgcagtgga tagagatgaa tccatagaag agcaccattt 1550
 ttactttaat ctatctgtag aagacactaa caattcaagt tttaaatca 1600
 tagataatca agataacaca gctgtcattt tgactaatag aactggtttt 1650
 aaccttcaag aagaacctgt cttctacatc tccatcttaa ttgcogacaa 1700
 tggaatcccg tcacttacia gtacaaacac cottaccatc catgtctgtg 1750
 actgtggtga cagtgggagc acacagacct gccagtacca ggagcttgtg 1800
 ctttccatgg gattcaagac agaagttatc attgctattc tcatttgcac 1850
 tatgatcata tttgggttta tttttttgac tttgggttta aaacaacgga 1900

gaaaacagat tctatttcct gagaaaagtg aagatttcag agagaatata 1950
 ttccaatatg atgatgaagg ggggtggagaa gaagatacag aggcctttga 2000
 tatagcagag ctgaggagta gtaccataat gcgggaacgc aagactcgga 2050
 aaaccacaag cgctgagatc aggagcctat acaggcagtc tttgcaagtt 2100
 ggccccgaca gtgccatatt caggaaattc attctggaaa agctcgaaga 2150
 agctaatact gatccgtgtg cccctccttt tgattccctc cagacctacg 2200
 cttttgaggg aacaggggtca ttagctggat ccctgagctc cttagaatca 2250
 gcagtctctg atcaggatga aagctatgat taccttaatg agttgggacc 2300
 tcgcttttaa agattagcat gcatgtttgg ttctgcagtg cagtcaaata 2350
 attagggctt ttaccatca aaatttttaa aagtgcataat gtgtattcga 2400
 acccaatggg agtcttaaag agttttgtgc cctggctcta tggcggggaa 2450
 agccctagtc tatggagttt tctgatttcc ctggagtaaa tactccatgg 2500
 ttattttaag ctacctacat gctgtcattg aacagagatg tggggagaaa 2550
 tgtaaacaat cagctcacag gcatcaatac aaccagattt gaagtaaaat 2600
 aatgtaggaa gatattaaaa gtagatgaga ggacacaaga tgtagtcgat 2650
 ccttatgcga ttatatcatt atttacttag gaaagagtaa aaataccaaa 2700
 cgagaaaatt taaaggagca aaaatttgca agtcaaatag aaatgtacaa 2750
 atcgagataa catttacatt tctatcatat tgacatgaaa attgaaaatg 2800
 tatagtcaga gaaattttca tgaattattc catgaagtat tgtttccttt 2850
 atttaaa 2857

<210> 264

<211> 772

<212> PRT

<213> Homo sapiens

<400> 264

Met	Asn	Cys	Tyr	Leu	Leu	Leu	Arg	Phe	Met	Leu	Gly	Ile	Pro	Leu
1				5					10					15
Leu	Trp	Pro	Cys	Leu	Gly	Ala	Thr	Glu	Asn	Ser	Gln	Thr	Lys	Lys
				20					25					30
Val	Lys	Gln	Pro	Val	Arg	Ser	His	Leu	Arg	Val	Lys	Arg	Gly	Trp
				35					40					45
Val	Trp	Asn	Gln	Phe	Phe	Val	Pro	Glu	Glu	Met	Asn	Thr	Thr	Ser
				50					55					60

His	His	Ile	Gly	Gln	Leu	Arg	Ser	Asp	Leu	Asp	Asn	Gly	Asn	Asn	
				65					70					75	
Ser	Phe	Gln	Tyr	Lys	Leu	Leu	Gly	Ala	Gly	Ala	Gly	Ser	Thr	Phe	
				80					85					90	
Ile	Ile	Asp	Glu	Arg	Thr	Gly	Asp	Ile	Tyr	Ala	Ile	Gln	Lys	Leu	
				95					100					105	
Asp	Arg	Glu	Glu	Arg	Ser	Leu	Tyr	Ile	Leu	Arg	Ala	Gln	Val	Ile	
				110					115					120	
Asp	Ile	Ala	Thr	Gly	Arg	Ala	Val	Glu	Pro	Glu	Ser	Glu	Phe	Val	
				125					130					135	
Ile	Lys	Val	Ser	Asp	Ile	Asn	Asp	Asn	Glu	Pro	Lys	Phe	Leu	Asp	
				140					145					150	
Glu	Pro	Tyr	Glu	Ala	Ile	Val	Pro	Glu	Met	Ser	Pro	Glu	Gly	Thr	
				155					160					165	
Leu	Val	Ile	Gln	Val	Thr	Ala	Ser	Asp	Ala	Asp	Asp	Pro	Ser	Ser	
				170					175					180	
Gly	Asn	Asn	Ala	Arg	Leu	Leu	Tyr	Ser	Leu	Leu	Gln	Gly	Gln	Pro	
				185					190					195	
Tyr	Phe	Ser	Val	Glu	Pro	Thr	Thr	Gly	Val	Ile	Arg	Ile	Ser	Ser	
				200					205					210	
Lys	Met	Asp	Arg	Glu	Leu	Gln	Asp	Glu	Tyr	Trp	Val	Ile	Ile	Gln	
				215					220					225	
Ala	Lys	Asp	Met	Ile	Gly	Gln	Pro	Gly	Ala	Leu	Ser	Gly	Thr	Thr	
				230					235					240	
Ser	Val	Leu	Ile	Lys	Leu	Ser	Asp	Val	Asn	Asp	Asn	Lys	Pro	Ile	
				245					250					255	
Phe	Lys	Glu	Ser	Leu	Tyr	Arg	Leu	Thr	Val	Ser	Glu	Ser	Ala	Pro	
				260					265					270	
Thr	Gly	Thr	Ser	Ile	Gly	Thr	Ile	Met	Ala	Tyr	Asp	Asn	Asp	Ile	
				275					280					285	
Gly	Glu	Asn	Ala	Glu	Met	Asp	Tyr	Ser	Ile	Glu	Glu	Asp	Asp	Ser	
				290					295					300	
Gln	Thr	Phe	Asp	Ile	Ile	Thr	Asn	His	Glu	Thr	Gln	Glu	Gly	Ile	
				305					310					315	
Val	Ile	Leu	Lys	Lys	Lys	Val	Asp	Phe	Glu	His	Gln	Asn	His	Tyr	
				320					325					330	
Gly	Ile	Arg	Ala	Lys	Val	Lys	Asn	His	His	Val	Pro	Glu	Gln	Leu	
				335					340					345	
Met	Lys	Tyr	His	Thr	Glu	Ala	Ser	Thr	Thr	Phe	Ile	Lys	Ile	Gln	

Val Glu Asp Val	350	Phe Leu Leu Pro Tyr Tyr	355		360
Asp Glu Pro Pro Leu	365	Gln Gly Ser Phe Val Gly	370		375
Val Phe Glu Val	380	Arg Lys Ser Pro Ile Arg	385		390
Phe Glu Glu Thr Pro	395	Asn Ile Asn Asp Asn Gly	400		405
Thr Asp Pro Asp Asn	410	Arg Glu Ile Ser Ala Trp	415		420
Tyr Ser Ile Thr	425	Tyr Asn Ile Glu Gln	430		435
Arg Ser Lys Val Phe	440	Ile Thr Ala Thr Glu	445		450
Thr Ile Thr Thr	455	Val Leu Asn Ile Asn Asp	460		465
Ser Asn Ser Leu Asp	470	Glu Thr Tyr Val Cys Glu	475		480
Ile Thr Ala Thr Glu	485	Thr Ile Ser Ala Val Asp	490		495
Pro Leu Tyr Val Gln	500	Phe Tyr Phe Asn Leu Ser	505		510
Val Glu Asp Thr	515	Thr Ile Ile Asp Asn Gln	520		525
Asn Asn Ser Ser Phe	530	Arg Thr Gly Phe Asn Leu	535		540
Val Ile Leu Thr Asn	545	Ile Leu Ile Ala Asp Asn	550		555
Gln Glu Glu Pro	560	Thr Leu Thr Ile His Val	565		570
Leu Thr Ser Thr Asn	575	Gln Thr Cys Gln Tyr Gln	580		585
Asp Ser Gly Ser Thr	590	Thr Glu Val Ile Ile Ala	595		600
Glu Leu Val Leu	605	Phe Ile Phe Leu Thr	610		615
Ser Met Gly Phe Lys	620	Ile Leu Phe Pro Glu Lys	625		630
Gln Arg Arg Lys Gln	635	Gln Tyr Asp Asp Glu Gly	640		645
Ile Met Ile Ile Phe					
Leu Gly Leu Lys					
Ser Glu Asp Phe					

Gly	Gly	Glu	Glu	Asp	Thr	Glu	Ala	Phe	Asp	Ile	Ala	Glu	Leu	Arg	650	655	660
Ser	Ser	Thr	Ile	Met	Arg	Glu	Arg	Lys	Thr	Arg	Lys	Thr	Thr	Ser	665	670	675
Ala	Glu	Ile	Arg	Ser	Leu	Tyr	Arg	Gln	Ser	Leu	Gln	Val	Gly	Pro	680	685	690
Asp	Ser	Ala	Ile	Phe	Arg	Lys	Phe	Ile	Leu	Glu	Lys	Leu	Glu	Glu	695	700	705
Ala	Asn	Thr	Asp	Pro	Cys	Ala	Pro	Pro	Phe	Asp	Ser	Leu	Gln	Thr	710	715	720
Tyr	Ala	Phe	Glu	Gly	Thr	Gly	Ser	Leu	Ala	Gly	Ser	Leu	Ser	Ser	725	730	735
Leu	Glu	Ser	Ala	Val	Ser	Asp	Gln	Asp	Glu	Ser	Tyr	Asp	Tyr	Leu	740	745	750
Asn	Glu	Leu	Gly	Pro	Arg	Phe	Lys	Arg	Leu	Ala	Cys	Met	Phe	Gly	755	760	765
Ser	Ala	Val	Gln	Ser	Asn	Asn									770		

<210> 265
 <211> 349
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 24, 60, 141, 226, 228, 249, 252
 <223> unknown base

<400> 265
 atttcaaggc cagccatatt tttntgttga accaacaaca ggagtcataa 50
 gaatatatttn taaaatggat agagaactgc aagatgagta ttgggtaatc 100
 attcaagcca aggacatgat tggtcagcca ggagcgttgt ntggaacaac 150
 aagtgtatta attaaacttt cagatgttaa tgacaataag cctatatatta 200
 aagaaagttt ataccgcttg actgtntntg aatctgcacc cactgggant 250
 tntataggaa caatcatggc atatgataat gacataggag agaatgcaga 300
 aatggattac agcattgaag aggatgattc gcaaacattt gacattatt 349

<210> 266
 <211> 25
 <212> DNA
 <213> Artificial Sequence
 <220>

<223> Synthetic oligonucleotide probe

<400> 266

cttgactgtc tctgaatctg caccc 25

<210> 267

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 267

aagtgggtgga agcctccagt gtgg 24

<210> 268

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 268

ccactacggt attagagcaa aagttaaaaa ccatcatggt tcctggagca 50

gc 52

<210> 269

<211> 2747

<212> DNA

<213> Homo sapiens

<400> 269

gcaacctcag cttctagtat ccagactcca gcgcgcgccc gggcgcggac 50

cccaaccccg acccagagct tctccagcgg cggcgcagcg agcagggctc 100

cccgcccttaa cttcctccgc ggggccagc caccttcggg agtccggggtt 150

gccacctgc aaactctccg ctttctgcac ctgccacccc tgagccagcg 200

cgggcccccg agcgagtcac ggccaacgcg gggctgcagc tgttgggctt 250

cattctcgcc ttcctgggat ggatcggcgc catcgtcagc actgccctgc 300

cccagtggag gatttactcc tatgccggcg acaacatcgt gaccgcccag 350

gccatgtaag aggggctgtg gatgtcctgc gtgtcgcaga gcaccgggca 400

gatccagtgc aaagtctttg actccttgct gaatctgagc agcacattgc 450

aagcaacccg tgccttgatg gtgggttgga tcctcctggg agtgatagca 500

atctttgtgg ccaccgttgg catgaagtgt atgaagtgct tggaagacga 550

tgagggtgcag aagatgagga tggctgtcat tgggggtgcg atatttcttc 600

ttgcaggctct ggctatittta gttgccacag catgggtatgg caatagaatc 650
 gttcaagaat tctatgaccc tatgacccca gtcaatgccg ggtacgaatt 700
 tggtcaggct ctcttcactg gctgggctgc tgcttctctc tgccttctgg 750
 gaggtgcctt actttgctgt tctgtcccc gaaaaacaac ctcttaccga 800
 acaccaaggc cctatccaaa acctgcacct tccagcggga aagactacgt 850
 gtgacacaga ggcaaaagga gaaaatcatg ttgaaacaaa ccgaaaatgg 900
 acattgagat actatcatta acattaggac cttagaatct tgggtattgt 950
 aatctgaagt atgggtattac aaaacaaaca aacaaacaaa aaacccatgt 1000
 gttaaaatac tcagtgcata acatggctta atcttatttt atcttctttc 1050
 ctcaatatag gagggaagat ttttccattt gtattactgc ttcccattga 1100
 gtaatcatat tcaaattgggg gaaggggtgc tcttaaata tatatagata 1150
 tgtatatata catgtttttc tattaataat agacagtaaa atactattct 1200
 cattatgttg atactagcat acttaaaata tctctaaaat aggtaaatgt 1250
 atttaattcc atattgatga agatgtttat tgggtatatt tctttttcgt 1300
 ccttatatac atatgtaaca gtcaaatac atttactctt cttcattagc 1350
 tttgggtgcc tttgccaca gacctagcct aatttaccga ggatgaattc 1400
 tttcaattct tcatgcgtgc ctttttcata tacttatttt attttttacc 1450
 ataactttat agcacttgca tcgttattaa gcccttattt gttttgtgtt 1500
 tcattgggtc ctatctcctg aatctaacac atttcatagc ctacatttta 1550
 gtttctaaag ccaagaagaa tttattaca atcagaactt tggaggcaaa 1600
 tctttctgca tgaccaagt gataaattcc tgttgacctt cccacacaat 1650
 ccctgtactc tgaccatag cactcttggt tgctttgaaa atatttgtcc 1700
 aattgagtag ctgcatgctg ttccccagg tgttgtaaca caactttatt 1750
 gattgaattt ttaagctact tattcatagt tttatatccc cctaaactac 1800
 ctttttgttc ccatttcctt aattgtattg ttttccaag tgtaattatc 1850
 atgcgtttta tatcttccta ataagggtgt gtctgtttgt ctgaacaaag 1900
 tgctagactt tctggagtga taatctgggt acaaatattc tctctgtagc 1950
 tgtaagcaag tcacttaatc tttctacctc tttttctat ctgccaaatt 2000
 gagataatga tacttaacca gttagaagag gtagtgtgaa tattaattag 2050

tttatattac tcttattctt tgaacatgaa ctatgcctat gtagtgtctt 2100
 tatttgctca gctggctgag aactgaaga agtcactgaa caaacctac 2150
 acacgtacct tcatgtgatt cactgccttc ctctctctac cagtctatct 2200
 cactgaaca aaacctacac acataccttc atgtgggttca gtgccttcct 2250
 ctctctacca gtctatttcc actgaacaaa acctacgcac ataccttcat 2300
 gtggctcagt gccttcctct ctctaccagt ctatttccat tctttcagct 2350
 gtgtctgaca tgtttgtgct ctgttccatt ttaacaactg ctcttacttt 2400
 tccagtctgt acagaatgct atttcacttg agcaagatga tgtaatggaa 2450
 aggggtgttg cactgggtgtc tggagacctg gatttgagtc ttgggtgctat 2500
 caatcaccgt ctgtgtttga gcaaggcatt tggctgctgt aagcttattg 2550
 cttcatctgt aagcgggtgt ttgtaattcc tgatcttccc acctcacagt 2600
 gatgttgtgg ggatccagtg agatagaata catgtaagtg tggttttgta 2650
 atttaaaaag tgctatacta agggaaagaa ttgaggaatt aactgcatac 2700
 gttttggtgt tgcttttcaa atgtttgaaa ataaaaaaaa tgtaag 2747

<210> 270
 <211> 211
 <212> PRT
 <213> Homo sapiens

<400> 270

Met	Ala	Asn	Ala	Gly	Leu	Gln	Leu	Leu	Gly	Phe	Ile	Leu	Ala	Phe
1				5					10					15
Leu	Gly	Trp	Ile	Gly	Ala	Ile	Val	Ser	Thr	Ala	Leu	Pro	Gln	Trp
				20					25					30
Arg	Ile	Tyr	Ser	Tyr	Ala	Gly	Asp	Asn	Ile	Val	Thr	Ala	Gln	Ala
				35					40					45
Met	Tyr	Glu	Gly	Leu	Trp	Met	Ser	Cys	Val	Ser	Gln	Ser	Thr	Gly
				50					55					60
Gln	Ile	Gln	Cys	Lys	Val	Phe	Asp	Ser	Leu	Leu	Asn	Leu	Ser	Ser
				65					70					75
Thr	Leu	Gln	Ala	Thr	Arg	Ala	Leu	Met	Val	Val	Gly	Ile	Leu	Leu
				80					85					90
Gly	Val	Ile	Ala	Ile	Phe	Val	Ala	Thr	Val	Gly	Met	Lys	Cys	Met
				95					100					105
Lys	Cys	Leu	Glu	Asp	Asp	Glu	Val	Gln	Lys	Met	Arg	Met	Ala	Val
				110					115					120

Ile Gly Gly Ala	Ile Phe Leu Leu Ala	Gly Leu Ala Ile Leu Val
125		130 135
Ala Thr Ala Trp Tyr Gly Asn Arg Ile	Val Gln Glu Phe Tyr Asp	
140	145	150
Pro Met Thr Pro Val Asn Ala Arg Tyr	Glu Phe Gly Gln Ala Leu	
155	160	165
Phe Thr Gly Trp Ala Ala Ala Ser Leu	Cys Leu Leu Gly Gly Ala	
170	175	180
Leu Leu Cys Cys Ser Cys Pro Arg Lys	Thr Thr Ser Tyr Pro Thr	
185	190	195
Pro Arg Pro Tyr Pro Lys Pro Ala Pro	Ser Ser Gly Lys Asp Tyr	
200	205	210

Val

<210> 271
 <211> 564
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 21, 69, 163, 434, 436, 444
 <223> unknown base

<400> 271
 ttctggccaa acccggggct ncagctgttg ggcttcatct cgccttcctg 50
 ggatggatcg gcgcatcnt cacactgccc ttcccagtg gaggatttta 100
 ctccctatgc tggcgacaac atcgtgaccg cccagcccat gtacgagggg 150
 ctgtggatgt ccngcgtgtc gcagagcacc gggcagatcc agtgcaaagt 200
 ctttgactcc ttgctgaatc tgagcagcac attgcaagca acccgtgcct 250
 tgatggtggt tggcatcctc ctgggagtga tagcaatctt tgtggccacc 300
 gttggcatga agtgtatgaa gtgcttggaa gacgatgagg tgcagaagat 350
 gaggatggct gtcattgggg gcgcatatt tcttcttgca ggtctggcta 400
 ttttagttgc cacagcatgg tatggcaata gaancnttca acanttctat 450
 gaccctatga cccagtcaa tgccaggtag gaatttggtc aggctctctt 500
 cactggctgg gctgctgctt ctctctgcct tctgggaggt gccctacttt 550
 gctgttctctg tccc 564

<210> 272
 <211> 498

<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> 30, 49, 102, 141, 147, 171, 324-325, 339-341
<223> unknown base

<400> 272
acccttgacc caacgcggcc ccccgaccgn ttcattggcca aacgcgggnc 50
tccagctgtt gggcttcatt ctccccttcc tgggatggac cggcgcccat 100
cntcagcact gccctgcccc agtggaggat ttactcctat nccggcnaca 150
acatcgtgac cgcccaggcc ntgtacgagg ggctgtggat gtcctgcgtg 200
tcgcagagca ccgggcagat ccagtgcaaa .gtctttgact cccttgctga 250
atctgagcag cacattgcaa gcaaccctg ccttgatggt gggtggcatc 300
ctcctgggag tgatagcaat cttnttggcc accgttgttn ntgaagtgtg 350
tgaagtgtt ggaagacgat gaggtgcaga agatgaggat ggctgtcatt 400
gggggcgcga tatttcttct tgcaggctctg gctatttttag ttgccacagc 450
atggtatggc aatagaatcg ttcaagaatt ctatgacct atgaccga 498

<210> 273
<211> 552
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> 25, 57, 67, 94-95, 116, 152, 165, 212, 233, 392-394
<223> unknown base

<400> 273
gggcccgacc attatccaac cgggntcaact gttggctcat ctccctcctg 50
gatgaancgc gccatentca gactccctgc cccatggaga tttncctat 100
gctggcgaca acatcntgac cccagccat gtacgagggg ctttgaacgt 150
cngcgtgtcg caganacccg ggcagatcca gtgcaaagtc tttgactcct 200
tgctgaatct gngcagcaca ttgcagcaac cntgcccctg atggtggttg 250
gcatcctcct gggagtgata gcaatctttg tggccaccgt tggcatgaag 300
tgtatgaagt gcttgaaga cgatgaggtg cagaagatga ggatggctgt 350
cattgggggc gcgatatttc ttcttgcagg tctggctatt tnnngttgcc 400
acagcatggt atggcaatag aatcgttcaa gaattctatg accctatgac 450

cccagtc aat gccaggtacg aatttgggtca ggctctcttc actggctggg 500
ctgctgcttc tctctgcctt ctgggaggtg ccctactttg ctgttcctgc 550
ga 552

<210> 274

<211> 526

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 25, 50, 60, 123, 127, 370, 395, 397-398, 402-403, 405-407

<223> unknown base

<400> 274

atttctcccct cctggatgga tgcncacc gtcacattgc cttccccan 50
tggaggattn actcctatgc tggcgacaac atcgtgaccc cccaggccat 100
ttaccgaggg gctttggatg tcntgcntgt cgagagcac cgggcagatc 150
ccagtgcaaa gtctttgact ccttgctgaa tctgagcagc acattgcaag 200
caaccctgctg cttgatgggg ttggcatcct cctgggagtg atagcaacct 250
ttgtggccac cgttggcatg aagtgtatga agtgcttggga agacgatgag 300
gtgccagaag atgaggatgg ctgtcattgg gggcgcgata tttcttggtg 350
caggtctggc tatttttagtn gccacagcat ggtatggcaa tagantnntt 400
cnngnnntct atgaccctat gacccagtc aatgccaggt acgaatttgg 450
tcaggctctc ttcactggct gggctgctgc ttctctctgc cttctgggag 500
gtgcctact ttgctgttcc tgtccc 526

<210> 275

<211> 398

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 22, 61, 91, 144, 238-239, 262, 265-266, 271, 274

<223> unknown base

<400> 275

agagcaccgg cagatcccag tncaaagtct ttgacccttg ctgaatctga 50
gcagcacatt ncaagcaacc ccttgcccttg aagggtggtg ncatcccccc 100
tgggagtgaa tagcaatctt tgtggccacc gttggcatga agtntatgaa 150
gtgcttgga gacgatgagg tgcagaagat gaggatggct gtcattgggg 200

gcgcgatatt tcttcttgca ggtctggcta ttttagtnnc cacagcatgg 250
 tatggcaata gnatnnttcg nggnttctat gaccctatga cccagtcaa 300
 tgccaggtag gaatttggtc aggcctctctt cactggctgg gctgctgctt 350
 ctctctgcct tctgggaggt gccctacttt gctgttcctg tccccgaa 398

<210> 276
 <211> 495
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 39, 58, 130, 234, 314, 364, 427, 450, 461, 476
 <223> unknown base

<400> 276
 agcaatgccc tgccccaggt ggaggattaa ttcctatgnt ggggacaaca 50
 ttgtgacngc ccaggccatg tacggggggc tgtggatgtc ctgcgtgtcg 100
 cagagcaccg ggcagatcca gtgcaaagtn tttgactcct tgctgaattt 150
 gagcagcaca ttgcaagcaa cccgtgcctt gatgggtggtt ggcattcttcc 200
 tgggagtgat agcaatcttt gtggccaccg tggnaatgaa gtgtatgaag 250
 tgcttggaag acgatgaggt gcagaagatg aggatggctg tcattggggg 300
 cgcgatattt cttnttgca gctctggctat tttagttgcc acagcatggt 350
 atggcaatag aatngttcaa gaattttatg accctatgac cccagtcaat 400
 gccaggtagc aatttggtca ggctttnttc actggctggg ctgctgcttn 450
 tttctgcctt ntgggaggtg ccctantttg ctgttcctgc gaacc 495

<210> 277
 <211> 200
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 34, 87, 138, 147, 163, 165-166, 172
 <223> unknown base

<400> 277
 tcataggggg gcgcgatatt ttttcttgca ggtntgggta ttttagttgc 50
 cacagcatgg tatggcaata gaatcgttca agaattntat gaccctatga 100
 cccagtcaa tgccaggtag gaatttggtc aggcctctntt cactggnttg 150
 gctgctgctt ctntnngcct tntgggaggt gccctacttt gctgttcctg 200

<210> 278
<211> 542
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> 26, 43, 55, 77, 198, 361-362, 391-392, 396
<223> unknown base

<400> 278
ttcctgggat ggatccgccc ccatcctcac atgccctgcc cnttgagat 50
ttacncctat gctggcgaac aacatcntga cggcccaggc catgtacgag 100
gggctgtgga atgtcctgcg tgtcccagag caccgggcag atccagtga 150
aagtctttga ctcttgctg aatctgagca gcacattgca agcaacctg 200
ccttgatggt ggttggcatc ctctgggag tgatagcaat ctttgtggcc 250
accgttggca tgaagtgtg tgaagtgtt ggaagacgat gaggtgcaga 300
agatgaggat ggctgtcatt gggggcgcgga tatttcttct tgcaggtctg 350
gctattttag nngccacagc atggtatggc aatcagaccc nntcanaaac 400
tctatgaccc tatgacccca gtcaatgcca ggtacgaatt tggtcaggct 450
ctcttactg gctgggctgc tgcttctctc tgccttctgg gaggtgccct 500
actttgctgt tctgtcccc gaaaaacaac ctcttaccga cg 542

<210> 279
<211> 548
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> 90, 115, 147, 228, 387
<223> unknown base

<400> 279
cggggctgca gctgttgggc ttcatctcgc ttcctgggat ggaatcggcg 50
ccatcgtcag cactgccctg ccccatggag gatttactcn tatgctggcg 100
acaacatcgt gaccnccag gccatgtacg aggggctgtg gatgtcngcg 150
tgtcgagag caccgggcag atccagtga aagtctttga ctcttgctg 200
aatctgagca gcacattgca agcaacctg ccttgatggt ggttggcatc 250
ctcctgggag tgatagcaat ctttgtggcc accgttggca tgaagtgtat 300
gaagtgcttg gaagacgatg aggtgcagaa gatgaggatg gctgtcattg 350

ggggcgcgat atttcttctt gcaggtcttg ctatttntag ttgccacagc 400
 atggtatggc aatagaatcg ttcaagaatt ctatgaccct atgaccccag 450
 tcaatgccag gtacgaattt ggtcaggctc tcttcactgg ctgggctgct 500
 gcttctctct gccttctggg aggtgcccta ctttgcgtgt cctgcgaa 548

<210> 280

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 280

cgagcgagtc atggccaacg c 21

<210> 281

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 281

gtgtcacacg tagtctttcc cgctgg 26

<210> 282

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 282

ctgcagctgt tgggcttcat tctcgccttc ctgggatgga tcg 43

<210> 283

<211> 2285

<212> DNA

<213> Homo sapiens

<400> 283

gcgtgccgtc agctcgccgg gcaccgcggc ctgcacctcg ccctccgccc 50

ctgcgcctgc accgcgtaga ccgaccccc cctccagcgc gccaccccg 100

tagaggaccc ccgcccgtgc cccgaccggt ccccgccctt ttgtaaaact 150

taaagcgggc gcagcattaa cgcttcccg cccggtgacc tctcaggggt 200

ctccccgcca aagggtgtcc gccgctaagg aacatggcga aggtggagca 250

ggtcctgagc ctgcagccgc agcacgagct caaattccga ggtcccttca 300

ccgatgttgt caccaccaac ctaaagcttg gcaacccgac agaccgaaat 350
 gtgtgtttta aggtgaagac tacagcacca cgtaggtact gtgtgaggcc 400
 caacagcgga atcatcgatg caggggcctc aattaatgta tctgtgatgt 450
 tacagccttt cgattatgat cccaatgaga aaagtaaaca caagtttatg 500
 gttcagtcta tgtttgctcc aactgacact tcagatatgg aagcagtatg 550
 gaaggaggca aaaccggaag accttatgga ttcaaaactt agatgtgtgt 600
 ttgaattgcc agcagagaat gataaaccac atgatgtaga aataaataaa 650
 attatatcca caactgcac aaagacagaa acaccaatag tgtctaagtc 700
 tctgagttct tctttggatg acaccgaagt taagaagggt atggaagaat 750
 gtaagaggct gcaagggtgaa gttcagaggc tacgggagga gaacaagcag 800
 ttcaaggaag aagatggact gcggatgagg aagacagtgc agagcaacag 850
 cccattttca gcattagccc caactgggaa ggaagaaggc cttagcacc 900
 ggctcttggc tctggtggtt ttgttcttta tcgttggtgt aattattggg 950
 aagattgcct tgtagaggta gcatgcacag gatggtaaat tggattggtg 1000
 gatccaccat atcatgggat ttaaatttat cataaccatg tgtaaaaaga 1050
 aattaatgta tgatgacatc tcacaggtct tgcctttaaa ttaccctcc 1100
 ctgcacacac atacacagat acacacacac aaatataatg taacgatctt 1150
 ttagaaagtt aaaaatgtat agtaactgat tgagggggaa aaagaatgat 1200
 ctttattaat gacaaggga accatgagta atgccacaat ggcatattgt 1250
 aaatgtcatt ttaaacattg gtaggccttg gtacatgatg ctggattacc 1300
 tctcttaaaa tgacaccctt cctgcctgt tggtgctggc ccttggggag 1350
 ctggagccca gcatgctggg gagtgcggtc agctccacac agtagtccc 1400
 acgtggccca ctcccgccc aggtgcttt cegtgtcttc agttctgtcc 1450
 aagccatcag ctcttgga ctgatgaaca gagtcagaag cccaaaggaa 1500
 ttgactgtg gcagcatcag acgtactcgt cataagtgag aggcgtgtgt 1550
 tgactgattg acccagcgt ttggaaataa atggcagtgc ttgtttcact 1600
 taaagggacc aagctaaatt tgtattggtt catgtagtga agtcaaactg 1650
 ttattcagag atgtttaatg catatttaac ttatttaatg tatttcact 1700
 catgtttct tattgtcaca agagtacagt taatgctgcg tgctgctgaa 1750

ctctgttggg tgaactggta ttgctgctgg agggctgtgg gctcctctgt 1800
 ctctggagag tctggtcatg tggaggtggg gtttattggg atgctggaga 1850
 agagctgccca ggaagtgttt tttctgggtc agtaaataac aactgtcata 1900
 gggagggaaa ttctcagtag tgacagtcaa ctctagggtta ccttttttaa 1950
 tgaagagtag tcagtcttct agattgttct tataccacct ctcaaccatt 2000
 actcacactt ccagcgccca ggtccaagtc tgagcctgac ctccccttgg 2050
 ggacctagcc tggagtcagg acaaatggat cgggctgcag agggtagaa 2100
 gcgagggcac cagcagttgt ggggtggggag caagggaaga gagaaactct 2150
 tcagcgaatc cttctagtag tagttgagag tttgactgtg aattaatttt 2200
 atgccataaa agaccaaccc agttctgttt gactatgtag catcttgaaa 2250
 agaaaaatta taataaagcc ccaaaattaa gaaaa 2285

<210> 284
 <211> 243
 <212> PRT
 <213> Homo sapiens

<400> 284
 Met Ala Lys Val Glu Gln Val Leu Ser Leu Glu Pro Gln His Glu
 1 5 10 15
 Leu Lys Phe Arg Gly Pro Phe Thr Asp Val Val Thr Thr Asn Leu
 20 25 30
 Lys Leu Gly Asn Pro Thr Asp Arg Asn Val Cys Phe Lys Val Lys
 35 40 45
 Thr Thr Ala Pro Arg Arg Tyr Cys Val Arg Pro Asn Ser Gly Ile
 50 55 60
 Ile Asp Ala Gly Ala Ser Ile Asn Val Ser Val Met Leu Gln Pro
 65 70 75
 Phe Asp Tyr Asp Pro Asn Glu Lys Ser Lys His Lys Phe Met Val
 80 85 90
 Gln Ser Met Phe Ala Pro Thr Asp Thr Ser Asp Met Glu Ala Val
 95 100 105
 Trp Lys Glu Ala Lys Pro Glu Asp Leu Met Asp Ser Lys Leu Arg
 110 115 120
 Cys Val Phe Glu Leu Pro Ala Glu Asn Asp Lys Pro His Asp Val
 125 130 135
 Glu Ile Asn Lys Ile Ile Ser Thr Thr Ala Ser Lys Thr Glu Thr
 140 145 150

Pro	Ile	Val	Ser	Lys	Ser	Leu	Ser	Ser	Ser	Leu	Asp	Asp	Thr	Glu
				155					160					165
Val	Lys	Lys	Val	Met	Glu	Glu	Cys	Lys	Arg	Leu	Gln	Gly	Glu	Val
				170					175					180
Gln	Arg	Leu	Arg	Glu	Glu	Asn	Lys	Gln	Phe	Lys	Glu	Glu	Asp	Gly
				185					190					195
Leu	Arg	Met	Arg	Lys	Thr	Val	Gln	Ser	Asn	Ser	Pro	Ile	Ser	Ala
				200					205					210
Leu	Ala	Pro	Thr	Gly	Lys	Glu	Glu	Gly	Leu	Ser	Thr	Arg	Leu	Leu
				215					220					225
Ala	Leu	Val	Val	Leu	Phe	Phe	Ile	Val	Gly	Val	Ile	Ile	Gly	Lys
				230					235					240

Ile Ala Leu

<210> 285
 <211> 418
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 40, 53, 68, 119, 134, 177-178, 255
 <223> unknown base

<400> 285
 gtcagtcttc tagattgtcc ttatcccacc tttcaaccan tactcacatt 50
 tcnagcgccc aggtccangt ctgagcctga cttccccttg gggacctagc 100
 ctggagtcag gacaatggnt cgggctgcag aggnntagaa gcgagggcac 150
 cagcagtttt ggggtggggag caagggnga gagaaactct tcagcgaatc 200
 cttctagtac tagttgagag tttgactgtg aattaatttt atgccataaa 250
 agacnaaccc agttctgttt gactatgtag catcttgaaa agaaaaatta 300
 taataaagcc ccaaaattaa gaattctttt gtcattttgt cacatttgct 350
 ctatgggggg aattattatt ttatcatttt tattattttg ccattggaag 400
 gttaacttta aaatgagc 418

<210> 286
 <211> 543
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 73, 97

<223> unknown base

<400> 286

tattgtaaaag gccatttttaa accattggta ggccttggtg catgatgctg 50
gattacctcc ttaaatgaca ccnttcctcg cctggttggtg ctggccnttg 100
gggagctgga gccccagcat gctggggagt gcggtcagct ccacacagta 150
gtccccacgt ggcccactcc cggcccaggc tgctttccgt gtcttcagtt 200
ctgtccaagc catcagctcc ttgggactga tgaacagagt cagaagccca 250
aaggaattgc cactgtggca gcatcagacg tactcgtcat aagtgagagg 300
cgtgtgttga ctgattgacc cagcgctttg gaaataaatg gcagtgcctt 350
gttcacttaa agggaccaag cttaaattgta ttggttcag tagtgaagtc 400
aaactgittat tcagagatgt ttaatgcata tttacttat ttaatgtatt 450
tcattctcatg ttttcttatt gtcacaagag tacagttaat gctgcgtgct 500
gctgaactct gttgggtgaa ctggtattgc tgctggaggg ctg 543

<210> 287

<211> 270

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 38, 64, 72, 164, 198, 200, 220, 222, 229, 242

<223> unknown base

<400> 287

ccctgggtggg tttgttcttt aattcggttg tgtaattntt gggaagattg 50
cttgtagagg tagnatgcac cnggctggta aattggattg gtggatccac 100
catatccatg ggattttaaatt ttatcataac catgtgtaaa aagaaattaa 150
tgtatgatga catntcacag gtattgcctt taaattaccc atccctgnan 200
acacatacac agatacacan anacaaatnt aatgtaacga tnttttagaa 250
agttaaaaat gtatagtaac 270

<210> 288

<211> 428

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 35, 116, 129, 197, 278, 294, 297, 349, 351

<223> unknown base

<400> 288
 ggtggcccat tcccggccca ggctgctttc cggtnnccag ttctgtccaa 50
 gccatcagct ccttgggact gatgaacaga gtcagaagcc caaaggaatt 100
 gcactgtggc agcatnagac gtacttghta taagtgagag gcgtgtgttg 150
 actgattgac ccagcgcttt ggaaataaat ggcagtgcct tgttcantta 200
 aaggggaccaa gctaaatttg tattgggttca tgtagtgaag tcaaactgtt 250
 attcagagat gtttaatgca tatttaantt atttaatgta tttnatntca 300
 tgtttttctta ttgtcacaag agtacagtta atgctgcgtg ctgctgaant 350
 ntgttgggtg aactgggtatt gctgctggag ggctgtgggc tcctctgtct 400
 ttggagagtc tggatcatgtg gaggtggg 428

<210> 289
 <211> 320
 <212> DNA
 <213> Homo sapiens

<400> 289
 tgctttccgt gtcttcagtt ctgtccaagc catcagctcc ttgggacttg 50
 atgaacagag tcagaagccc aaaggaattg cactgtggca gcatcagacg 100
 tactcgtcat aagtgagagg cgtgtgttga ctgattgacc cagcgctttg 150
 gaaataaatg gcagtgcctt gttcacttaa agggaccaag ctaaatttgt 200
 attggttcat gtagtgaagt caaactgtta ttcagagatg tttaatgcat 250
 atttaactta tttaatgtat ttcattctcat gttttcttat tgtcacaaga 300
 gtacagttaa tgctgcgtgc 320

<210> 290
 <211> 609
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 57, 60, 186, 235, 244, 304, 339, 355, 359, 361, 387, 432, 441,
 447, 481, 513, 532, 584, 598
 <223> unknown base

<400> 290
 aaacctttta aagttgaggg gaaaagaatg atcctttatt aatgacaagg 50
 gaaaccntgn gtaatgccac aatggcatat tgtaaagtgc attttaaaca 100
 ttggtaggcc ttggtacatg atgctggatt acctctctta aaatgacacc 150
 cttcctcgcc tgttgggtgt ggcccttggg gagctngagc ccagcatgct 200

ggggagtgcg gtctgctcca cacagtagtc cccangtggc ccantcccgg 250
 cccaggctgc tttccgtgtc ttcagttctg tccaagccat cagctccttg 300
 ggantgatga acagagtcag aagcccaaag gaattgcant gtggcagcat 350
 cagangtant ngtcataagt gagagggcgtg tggttgantga ttgaccagc 400
 gctttggaaa taaatggcag tgctttgttc anttaaaggg nccaagntaa 450
 atttgtattg gttcatgtag tgaagtcaaa ntgttattca gagatgttta 500
 atgcatatth aanttattta atgtatttca tntcatgttt tcttattgtc 550
 acaagggtag agttaatgct gcggtgctgct gaantctgtt ggggtgaantg 600
 gtattgctg 609

<210> 291
 <211> 493
 <212> DNA
 <213> Homo sapiens

<400> 291
 ggcccttggg gagctggagc ccagcatgct ggggagtgcg gtcagctcca 50
 cacagtagtc cccacgtggc ccactcccgg cccaggctgc tttccgtgtc 100
 ttcagttctg tccaagccat cagctccttg ggactgatga acagagtcag 150
 aagcccaaag gaattgcact gtggcagcat cagacgtact cgtcataagt 200
 gagagggcgtg tggttgactga ttgaccagc gctttggaaa taaatggcag 250
 tgctttgttc acttaaaggg accaagctaa atttgtattg gttcatgtag 300
 tgaagtcaaa ctgttattca gagatgttta atgcatatth aacttattta 350
 atgtatttca tctcatgttt tcttattgtc acaagagtag agttaatgct 400
 gcggtgctgct gaactctgtt ggggtgaactg gtattgctgc tggagggctg 450
 tgggctcctc tgtctctgga gagtctgggc atgtggaggt ggg 493

<210> 292
 <211> 27
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 292
 gcaccaccgt aggtacttgt gtgaggc 27

<210> 293
 <211> 23
 <212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 293

aaccaccaga gccaaagagcc ggg 23

<210> 294

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 294

cagcggaatc atcgatgcag gggcctcaat taatgtatct gtgatgttac 50

<210> 295

<211> 2530

<212> DNA

<213> Homo sapiens

<400> 295

gcgagctccg ggtgctgtgg cccggccttg gcggggcggc ctccggctca 50

ggctggctga gaggtccca gctgcagcgt ccccgccgc ctctcgga 100

gctctgatct cagctgacag tgcctcggg gaccaaaca gcctggcagg 150

gtctcacttt gttgccagg ctggagttca gtgccatgat catggtttac 200

tgcagccttg acctcctggg ttcaagcgt cctgctgagt agctgggact 250

acaggacaaa attagaagat caaatggaa aatatgctgc tttggttgat 300

atttttcacc cctgggtgga cctcattga tggatctgaa atggaatggg 350

attttatgtg gcaattgaga aaggtaaccc ggattgtcag tgaaaggact 400

ttccatctca ccagccccgc atttgaggca gatgctaaga tgatggtaaa 450

tacagtgtgt ggcacgaat gccagaaaga actcccaact ccagccttt 500

ctgaattgga ggattatctt tcctatgaga ctgtctttga gaatggcacc 550

cgaaccttaa ccagggtgaa agttcaagat ttggttcttg agccgactca 600

aaatatcacc acaaaggag tatctgttag gagaaagaga caggtgtatg 650

gcaccgacag caggttcagc atcttgga aaaggttctt aaccaatttc 700

cctttcagca cagctgtgaa gctttccacg ggctgtagtg gcattctcat 750

ttcccctcag catgttctaa ctgctgccca ctgtgttcat gatggaaagg 800

actatgtcaa agggagtaaa aagctaagg tagggttgtt gaagatgagg 850

aataaaagtg gaggaagaa acgtcgaggt tctaagagga gcaggagaga 900
agctagtggg ggtgaccaa gagaggggtac cagagagcat ctgcaggaga 950
gagcgaaggg tgggagaaga agaaaaaat ctggccgggg tcagaggatt 1000
gccgaagga ggccttcctt tcagtggacc cgggtcaaga ataccacat 1050
tccgaagggc tgggcacgag gaggcattggg ggacgctacc ttggactatg 1100
actatgctct tctggagctg aagcgtgctc aaaaaagaa atacatggaa 1150
cttgaatca gccaacgat caagaaaatg cctggtggaa tgatccactt 1200
ctcaggattt gataacgata gggctgatca gttggtctat cggttttgca 1250
gtgtgtccga cgaatccaat gatctccttt accaatactg cgatgctgag 1300
tcgggctcca ccggttcggg ggtctatctg cgtctgaaag atccagacaa 1350
aaagaattgg aagcgcaaaa tcattgcggg ctactcaggg caccagtggg 1400
tggtatgcca cggggttcag aaggactaca acgttgctgt tcgcatcact 1450
ccccataaat acgccagat ttgcctctgg attcacggga acgatgccaa 1500
ttgtgcttac ggctaacaga gacctgaaac agggcggtgt atcatctaaa 1550
tcacagagaa aaccagctct gcttacgta gtgagatcac ttcatagggt 1600
atgcctggac ttgaactctg tcaatagcat ttcaacattt ttcaaatca 1650
ggagattttc gtccatttaa aaaatgtata ggtgcagata ttgaaactag 1700
gtgggcactt caatgccaa tatatactct tctttacatg gtgatgagtt 1750
tcatttgtag aaaaattttg ttgccttctt aaaaattaga cacacttta 1800
accttcaaac aggtattata aataacatgt gactccttaa tggacttatt 1850
ctcagggtcc tactctaaga agaataaat aggatgctgg ttgtgtatta 1900
aatgtgaaat tgcatagata aaggtagatg gtaaagcaat tagtatcaga 1950
atagagacag aaagttacaa cacagtttgt actactctga gatggatcca 2000
ttcagctcat gccctcaatg tttatattgt gttatctgtt gggctctggga 2050
catttagttt agtttttttg aagaattaca aatcagaaga aaaagcaagc 2100
attataaaca aaactaataa ctgttttact gctttaagaa ataacaatta 2150
caatgtgtat tatttaaaaa tgggagaaat agtttgttct atgaaataaa 2200
cctagtttag aaatagggaa gctgagacat tttaagatct caagttttta 2250
tttaactaat actcaaaata tggacttttc atgtatgcat aggggaagaca 2300

cttcacaaat tatgaatgat catgtgttga aagccacatt attttatgct 2350
 atacattcta tgtatgaggt gctacatttt taggacaaag aattctgtaa 2400
 tctttttcaa gaaagagtct ttttctcctt gacaaaatcc agcttttgta 2450
 tgaggactat aggggtgaatt ctctgattag taattttaga tatgtccttt 2500
 cctaaaaatg aataaaattt atgaatatga 2530

<210> 296

<211> 413

<212> PRT

<213> Homo sapiens

<400> 296

Met	Glu	Asn	Met	Leu	Leu	Trp	Leu	Ile	Phe	Phe	Thr	Pro	Gly	Trp	1	5	10	15
Thr	Leu	Ile	Asp	Gly	Ser	Glu	Met	Glu	Trp	Asp	Phe	Met	Trp	His	20	25	30	
Leu	Arg	Lys	Val	Pro	Arg	Ile	Val	Ser	Glu	Arg	Thr	Phe	His	Leu	35	40	45	
Thr	Ser	Pro	Ala	Phe	Glu	Ala	Asp	Ala	Lys	Met	Met	Val	Asn	Thr	50	55	60	
Val	Cys	Gly	Ile	Glu	Cys	Gln	Lys	Glu	Leu	Pro	Thr	Pro	Ser	Leu	65	70	75	
Ser	Glu	Leu	Glu	Asp	Tyr	Leu	Ser	Tyr	Glu	Thr	Val	Phe	Glu	Asn	80	85	90	
Gly	Thr	Arg	Thr	Leu	Thr	Arg	Val	Lys	Val	Gln	Asp	Leu	Val	Leu	95	100	105	
Glu	Pro	Thr	Gln	Asn	Ile	Thr	Thr	Lys	Gly	Val	Ser	Val	Arg	Arg	110	115	120	
Lys	Arg	Gln	Val	Tyr	Gly	Thr	Asp	Ser	Arg	Phe	Ser	Ile	Leu	Asp	125	130	135	
Lys	Arg	Phe	Leu	Thr	Asn	Phe	Pro	Phe	Ser	Thr	Ala	Val	Lys	Leu	140	145	150	
Ser	Thr	Gly	Cys	Ser	Gly	Ile	Leu	Ile	Ser	Pro	Gln	His	Val	Leu	155	160	165	
Thr	Ala	Ala	His	Cys	Val	His	Asp	Gly	Lys	Asp	Tyr	Val	Lys	Gly	170	175	180	
Ser	Lys	Lys	Leu	Arg	Val	Gly	Leu	Leu	Lys	Met	Arg	Asn	Lys	Ser	185	190	195	
Gly	Gly	Lys	Lys	Arg	Arg	Gly	Ser	Lys	Arg	Ser	Arg	Arg	Glu	Ala	200	205	210	

<220>
<223> Synthetic oligonucleotide probe

<400> 298
catcgttccc gtgaatccag aggc 24

<210> 299
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 299
gaagggaggc cttcctttca gtggacccgg gtcaagaata cccac 45

<210> 300
<211> 1869
<212> DNA
<213> Homo sapiens

<400> 300
aatgtgagag gggctgatgg aagctgatag gcaggactgg agtgtttagca 50
ccagtactgg atgtgacagc aggcagagga gcacttagca gcttattcag 100
tgtccgattc tgattccggc aaggatccaa gcatggaatg ctgccgtcgg 150
gcaactcctg gcacactgct cctctttctg gctttcctgc tcctgagttc 200
caggaccgca cgctccgagg aggaccggga cggcctatgg gatgcctggg 250
gcccattggag tgaatgctca cgcacctgcg ggggaggggc ctccactact 300
ctgaggcgct gcctgagcag caagagctgt gaaggaagaa atatccgata 350
cagaacatgc agtaatgtgg actgcccacc agaagcaggt gatttccgag 400
ctcagcaatg ctcagctcat aatgatgtca agcaccatgg ccagttttat 450
gaatggcttc ctgtgtctaa tgaccctgac aacctatggt cactcaagtg 500
ccaagccaaa ggaacaaccc tggttgttga actagcacct aaggcttag 550
atggtacgcg ttgctataca gaatctttgg atatgtgcat cagtggttta 600
tgccaaattg ttggctgca tcaccagctg ggaagcaccg tcaaggaaga 650
taactgtggg gtctgcaacg gagatgggtc cacctgccgg ctggtccgag 700
ggcagtataa atcccagctc tccgcaacca aatcggatga tactgtgggt 750
gcacttcctt atggaagtag acatattcgc cttgtcttaa aaggctcctga 800
tcacttatat ctggaacca aaaccctcca ggggactaaa ggtgaaaaca 850
gtctcagctc cacaggaact ttccttggtg acaattctag tgtggacttc 900

cagaaatttc cagacaaaga gatactgaga atggctggac cactcacagc 950
agatttcatt gtcaagattc gtaactcggg ctccgctgac agtacagtcc 1000
agttcatctt ctatcaaccc atcatccacc gatggaggga gacggatttc 1050
tttccttgct cagcaacctg tggaggaggt tatcagctga catcggctga 1100
gtgctacgat ctgaggagca accgtgtggt tgctgaccaa tactgtcact 1150
attaccaga gaacatcaaa cccaaaccca agcttcagga gtgcaacttg 1200
gatccttgct cagccagtga cggatacaag cagatcatgc cttatgacct 1250
ctaccatccc cttcctcggg gggaggccac cccatggacc gcgtgctcct 1300
cctcgtgtgg ggggggcatc cagagccggg cagtttcctg tgtggaggag 1350
gacatccagg ggcattgtcac ttcagtggaa gaggtgaaat gcatgtacac 1400
ccctaagatg cccatcgcgc agccctgcaa catTTTTgac tgcctaaat 1450
ggctggcaca ggagtgggtc cctgtcacag tgacatgtgg ccagggcctc 1500
agataccgtg tggctcctctg catcgacct cgaggaatgc acacaggagg 1550
ctgtagccca aaaacaaagc cccacataaa agaggaatgc atcgtaacca 1600
ctccctgcta taaacccaaa gagaaacttc cagtcgaggc caagttgcca 1650
tggttcaaac aagctcaaga gctagaagaa ggagctgctg tgtcagagga 1700
gccctcgtaa gttgtaaaag cacagactgt tctatatttg aaactgtttt 1750
gtttaaagaa agcagtgtct cactggttgt agctttcatg ggttctgaac 1800
taagtgaat catctacca aagctttttg gctctcaaat taaagattga 1850
ttagtttcaa aaaaaaaaa 1869

<210> 301
<211> 525
<212> PRT
<213> Homo sapiens

<400> 301
Met Glu Cys Cys Arg Arg Ala Thr Pro Gly Thr Leu Leu Leu Phe
1 5 10 15
Leu Ala Phe Leu Leu Leu Ser Ser Arg Thr Ala Arg Ser Glu Glu
20 25 30
Asp Arg Asp Gly Leu Trp Asp Ala Trp Gly Pro Trp Ser Glu Cys
35 40 45
Ser Arg Thr Cys Gly Gly Gly Ala Ser Tyr Ser Leu Arg Arg Cys
50 55 60

Leu	Ser	Ser	Lys	Ser 65	Cys	Glu	Gly	Arg	Asn 70	Ile	Arg	Tyr	Arg	Thr 75
Cys	Ser	Asn	Val	Asp 80	Cys	Pro	Pro	Glu	Ala 85	Gly	Asp	Phe	Arg	Ala 90
Gln	Gln	Cys	Ser	Ala 95	His	Asn	Asp	Val	Lys 100	His	His	Gly	Gln	Phe 105
Tyr	Glu	Trp	Leu	Pro 110	Val	Ser	Asn	Asp	Pro 115	Asp	Asn	Pro	Cys	Ser 120
Leu	Lys	Cys	Gln	Ala 125	Lys	Gly	Thr	Thr	Leu 130	Val	Val	Glu	Leu	Ala 135
Pro	Lys	Val	Leu	Asp 140	Gly	Thr	Arg	Cys	Tyr 145	Thr	Glu	Ser	Leu	Asp 150
Met	Cys	Ile	Ser	Gly 155	Leu	Cys	Gln	Ile	Val 160	Gly	Cys	Asp	His	Gln 165
Leu	Gly	Ser	Thr	Val 170	Lys	Glu	Asp	Asn	Cys 175	Gly	Val	Cys	Asn	Gly 180
Asp	Gly	Ser	Thr	Cys 185	Arg	Leu	Val	Arg	Gly 190	Gln	Tyr	Lys	Ser	Gln 195
Leu	Ser	Ala	Thr	Lys 200	Ser	Asp	Asp	Thr	Val 205	Val	Ala	Leu	Pro	Tyr 210
Gly	Ser	Arg	His	Ile 215	Arg	Leu	Val	Leu	Lys 220	Gly	Pro	Asp	His	Leu 225
Tyr	Leu	Glu	Thr	Lys 230	Thr	Leu	Gln	Gly	Thr 235	Lys	Gly	Glu	Asn	Ser 240
Leu	Ser	Ser	Thr	Gly 245	Thr	Phe	Leu	Val	Asp 250	Asn	Ser	Ser	Val	Asp 255
Phe	Gln	Lys	Phe	Pro 260	Asp	Lys	Glu	Ile	Leu 265	Arg	Met	Ala	Gly	Pro 270
Leu	Thr	Ala	Asp	Phe 275	Ile	Val	Lys	Ile	Arg 280	Asn	Ser	Gly	Ser	Ala 285
Asp	Ser	Thr	Val	Gln 290	Phe	Ile	Phe	Tyr	Gln 295	Pro	Ile	Ile	His	Arg 300
Trp	Arg	Glu	Thr	Asp 305	Phe	Phe	Pro	Cys	Ser 310	Ala	Thr	Cys	Gly	Gly 315
Gly	Tyr	Gln	Leu	Thr 320	Ser	Ala	Glu	Cys	Tyr 325	Asp	Leu	Arg	Ser	Asn 330
Arg	Val	Val	Ala	Asp 335	Gln	Tyr	Cys	His	Tyr 340	Tyr	Pro	Glu	Asn	Ile 345
Lys	Pro	Lys	Pro	Lys	Leu	Gln	Glu	Cys	Asn	Leu	Asp	Pro	Cys	Pro

	350		355		360
Ala Ser Asp Gly	Tyr Lys Gln Ile Met	Pro Tyr Asp Leu Tyr His			
	365	370			375
Pro Leu Pro Arg	Trp Glu Ala Thr Pro	Trp Thr Ala Cys Ser Ser			
	380	385			390
Ser Cys Gly Gly	Gly Ile Gln Ser Arg	Ala Val Ser Cys Val Glu			
	395	400			405
Glu Asp Ile Gln	Gly His Val Thr Ser	Val Glu Glu Trp Lys Cys			
	410	415			420
Met Tyr Thr Pro	Lys Met Pro Ile Ala	Gln Pro Cys Asn Ile Phe			
	425	430			435
Asp Cys Pro Lys	Trp Leu Ala Gln Glu	Trp Ser Pro Cys Thr Val			
	440	445			450
Thr Cys Gly Gln	Gly Leu Arg Tyr Arg	Val Val Leu Cys Ile Asp			
	455	460			465
His Arg Gly Met	His Thr Gly Gly Cys	Ser Pro Lys Thr Lys Pro			
	470	475			480
His Ile Lys Glu	Glu Cys Ile Val Pro	Thr Pro Cys Tyr Lys Pro			
	485	490			495
Lys Glu Lys Leu	Pro Val Glu Ala Lys	Leu Pro Trp Phe Lys Gln			
	500	505			510
Ala Gln Glu Leu	Glu Glu Gly Ala Ala	Val Ser Glu Glu Pro Ser			
	515	520			525

<210> 302
 <211> 1533
 <212> DNA
 <213> Homo sapiens

<400> 302
 cggacgcgtg ggcggcggct gcggaactcc cgtggagggg ccggtgggcc 50
 ctcgggcctg acagatggca gtggccactg cggcggcagt actggccgct 100
 ctgggcgggg cgctgtggct ggcggcccgc cggttcgtgg ggcccagggt 150
 ccagcggctg cgcagaggcg gggaccccg cctcatgcac gggaagactg 200
 tgctgatcac cggggcgaa acgcggcctgg gccgcgccac ggccgcccag 250
 ctactgcgcc tgggagcgcg ggtgatcatg ggctgccggg accgcgcgcg 300
 cgccgaggag gcggcgggtc agctccgccg cgagctccgc caggccgcgg 350
 agtgcggccc agagcctggc gtcagcgggg tgggcgagct catagtccgg 400
 gagctggacc tcgcctcgct gcgctcgggt gcgccttct gccaggaaat 450

gctccaggaa gagcctaggc tggatgtctt gatcaataac gcagggatct 500
tccagtgtcc ttacatgaag actgaagatg ggtttgagat gcagttcgga 550
gtgaaccatc tggggcactt tctactcacc aatcttctcc ttggactcct 600
caaaagtica gctcccagca ggattgtggt agtttcttcc aaactttata 650
aatacggaga catcaatttt gatgacttga acagtgaaca aagctataat 700
aaaagctttt gttatagccg gagcaaactg gctaacattc tttttaccag 750
ggaactagcc cgccgcttag aaggcacaaa tgtcacccgc aatgtgttgc 800
atcctggtat tgtacggaca aatctgggga ggcacataca cattccactg 850
ttggtcaaac cactcttcaa tttggtgtca tgggcttttt tcaaaactcc 900
agtagaaggt gccagactt ccatttattt ggctcttca cctgaggtag 950
aaggagtgtc aggaagatac tttggggatt gtaaagagga agaactgttg 1000
cccaaagcta tggatgaatc tgttgcaaga aaactctggg atatcagtga 1050
agtgatggtt ggctgtctaa aataggaaca aggagtaaaa gagctgttta 1100
taaaactgca tatcagttat atctgtgatc aggaatggtg tggattgaga 1150
acttgttact tgaagaaaaa gaattttgat attggaatag cctgctaaga 1200
ggtacatgtg ggtattttgg agttactgaa aaattatttt tgggataaga 1250
gaatttcagc aaagatgttt taaatatata tagtaagtat aatgaataat 1300
aagtacaatg aaaaatacaa ttatattgta aaattataac tgggcaagca 1350
tggatgacat attaataattt gtcagaatta agtgactcaa agtgctatcg 1400
agagggtttt caagtatctt tgagtttcat ggccaaagtg ttaactagtt 1450
ttactacaat gtttggtgtt tgtgtggaaa ttatctgcct ggtgtgtgca 1500
cacaagtctt acttgaata aatttactgg tac 1533

<210> 303

<211> 336

<212> PRT

<213> Homo sapiens

<400> 303

Met	Ala	Val	Ala	Thr	Ala	Ala	Ala	Val	Leu	Ala	Ala	Leu	Gly	Gly
1				5				10					15	
Ala	Leu	Trp	Leu	Ala	Ala	Arg	Arg	Phe	Val	Gly	Pro	Arg	Val	Gln
			20					25					30	
Arg	Leu	Arg	Arg	Gly	Gly	Asp	Pro	Gly	Leu	Met	His	Gly	Lys	Thr
				35				40					45	

Val	Leu	Ile	Thr	Gly 50	Ala	Asn	Ser	Gly	Leu 55	Gly	Arg	Ala	Thr	Ala 60
Ala	Glu	Leu	Leu	Arg 65	Leu	Gly	Ala	Arg	Val 70	Ile	Met	Gly	Cys	Arg 75
Asp	Arg	Ala	Arg	Ala 80	Glu	Glu	Ala	Ala	Gly 85	Gln	Leu	Arg	Arg	Glu 90
Leu	Arg	Gln	Ala	Ala 95	Glu	Cys	Gly	Pro	Glu 100	Pro	Gly	Val	Ser	Gly 105
Val	Gly	Glu	Leu	Ile 110	Val	Arg	Glu	Leu	Asp 115	Leu	Ala	Ser	Leu	Arg 120
Ser	Val	Arg	Ala	Phe 125	Cys	Gln	Glu	Met	Leu 130	Gln	Glu	Glu	Pro	Arg 135
Leu	Asp	Val	Leu	Ile 140	Asn	Asn	Ala	Gly	Ile 145	Phe	Gln	Cys	Pro	Tyr 150
Met	Lys	Thr	Glu	Asp 155	Gly	Phe	Glu	Met	Gln 160	Phe	Gly	Val	Asn	His 165
Leu	Gly	His	Phe	Leu 170	Leu	Thr	Asn	Leu	Leu 175	Leu	Gly	Leu	Leu	Lys 180
Ser	Ser	Ala	Pro	Ser 185	Arg	Ile	Val	Val	Val 190	Ser	Ser	Lys	Leu	Tyr 195
Lys	Tyr	Gly	Asp	Ile 200	Asn	Phe	Asp	Asp	Leu 205	Asn	Ser	Glu	Gln	Ser 210
Tyr	Asn	Lys	Ser	Phe 215	Cys	Tyr	Ser	Arg	Ser 220	Lys	Leu	Ala	Asn	Ile 225
Leu	Phe	Thr	Arg	Glu 230	Leu	Ala	Arg	Arg	Leu 235	Glu	Gly	Thr	Asn	Val 240
Thr	Val	Asn	Val	Leu 245	His	Pro	Gly	Ile	Val 250	Arg	Thr	Asn	Leu	Gly 255
Arg	His	Ile	His	Ile 260	Pro	Leu	Leu	Val	Lys 265	Pro	Leu	Phe	Asn	Leu 270
Val	Ser	Trp	Ala	Phe 275	Phe	Lys	Thr	Pro	Val 280	Glu	Gly	Ala	Gln	Thr 285
Ser	Ile	Tyr	Leu	Ala 290	Ser	Ser	Pro	Glu	Val 295	Glu	Gly	Val	Ser	Gly 300
Arg	Tyr	Phe	Gly	Asp 305	Cys	Lys	Glu	Glu	Glu 310	Leu	Leu	Pro	Lys	Ala 315
Met	Asp	Glu	Ser	Val 320	Ala	Arg	Lys	Leu	Trp 325	Asp	Ile	Ser	Glu	Val 330
Met	Val	Gly	Leu	Leu	Lys									

<210> 304
 <211> 521
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 20, 34, 62, 87, 221, 229
 <223> unknown base

<400> 304
 ggggattgta aagaggaagn actgtgccca aagntatgga tgaatctgtt 50
 gcaagaaaat tntgggatat cagtgaagtg atggttngcc tgctaaaata 100
 ggaacaagga gtaaaagagc tgtttataaa actgcatatc agttatatct 150
 gtgatcagga atgggtgtgga ttgagaactt gttacttgaa gaaaaagaat 200
 tttgatattg gaatagcctg ntaagaggna catgtgggta ttttgagatt 250
 actgaaaaat tatttttggg ataagagaat ttcagcaaag atgtttttaa 300
 tatatatagt aagtataatg aataataagt acaatgaaaa atacaattat 350
 attgtaaaat tataactggg caagcatgga tgacatatta atatttgtca 400
 gaattaagtg actcaaagtg ctatcgagag gtttttcaag tatctttgag 450
 tttcatggcc aaagtgttaa ctagttttac tacaatgttt ggtgtttgtg 500
 tggaaattat ctgcctggct t 521

<210> 305
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 305
 ccaggaaatg ctccaggaag agcc 24

<210> 306
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 306
 gcccatgaca ccaaattgaa gagtgg 26

<210> 307

<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 307
aacgcaggga tcttccagtg cccttacatg aagactgaag atggg 45

<210> 308
<211> 1523
<212> DNA
<213> Homo sapiens

<400> 308
gagaggacga ggtgccgctg cctggagaat cctccgctgc cgtcggctcc 50
cggagcccag ccctttccta acccaacca acctagcca gtcccagcog 100
ccagcgcctg tccctgtcac ggacccagc gttaccatgc atcctgccgt 150
cttcctatcc ttacccgacc tcagatgctc ccttctgctc ctggtaactt 200
gggttttttac tctgtgaaca actgaaataa caagtcttgc tacagagaat 250
atagatgaaa ttttaaacia tgctgatgtt gctttagtaa atttttatgc 300
tgactggtgt cgtttcagtc agatgttgca tccaattttt gaggaagctt 350
ccgatgtcat taaggaagaa tttccaaatg aaaatcaagt agtgtttgcc 400
agagttgatt gtgatcagca ctctgacata gcccagagat acaggataag 450
caaataccca accctcaaat tgtttcgtaa tgggatgatg atgaagagag 500
aatacagggg tcagcgatca gtgaaagcat tggcagatta catcaggcaa 550
caaaaaagtg accccattca agaaattcgg gacttagcag aaatcaccac 600
tcttgatcgc agcaaaagaa atatcattgg atattttgag caaaaggact 650
cggacaacta tagagttttt gaacgagtag cgaatatattt gcatgatgac 700
tgtgcctttc tttctgcatt tggggatgtt tcaaaaccgg aaagatatag 750
tggcgacaac ataatctaca aaccaccagg gcattctgct ccggatatgg 800
tgtacttggg agctatgaca aattttgatg tgacttacia ttggattcaa 850
gataaatgtg ttcctcttgt ccgagaaata acatttgaaa atggagagga 900
attgacagaa gaaggactgc cttttotcat actctttcac atgaaagaag 950
atacagaaag tttagaaata ttccagaatg aagtagctcg gcaattaata 1000
agtgaaaaag gtacaataaa cttttttacat gccgattgtg acaaatttag 1050

acatcctctt ctgcacatac agaaaactcc agcagattgt cctgtaatcg 1100
ctattgacag ctttaggcat atgtatgtgt ttggagactt caaagatgta 1150
ttaattcctg gaaaactcaa gcaattcgta tttgacttac attctggaaa 1200
actgcacaga gaattccatc atggacctga cccaactgat acagccccag 1250
gagagcaagc ccaagatgta gcaagcagtc cacctgagag ctccttccag 1300
aaactagcac ccagtgaata taggtatact ctattgaggg atcgagatga 1350
gctttaaaaa cttgaaaaac agtttgtaag cctttcaaca gcagcatcaa 1400
cctacgtggg ggaaatagta aacctatatt ttcataattc tatgtgtatt 1450
tttattttga ataaacagaa agaaatttaa aaaaaaaaaa aaaaaaaaaa 1500
aaaaaaaaaa aaaaaaaaaa aaa 1523

<210> 309
<211> 406
<212> PRT
<213> Homo sapiens

<400> 309
Met His Pro Ala Val Phe Leu Ser Leu Pro Asp Leu Arg Cys Ser
1 5 10 15
Leu Leu Leu Leu Val Thr Trp Val Phe Thr Pro Val Thr Thr Glu
20 25 30
Ile Thr Ser Leu Ala Thr Glu Asn Ile Asp Glu Ile Leu Asn Asn
35 40 45
Ala Asp Val Ala Leu Val Asn Phe Tyr Ala Asp Trp Cys Arg Phe
50 55 60
Ser Gln Met Leu His Pro Ile Phe Glu Glu Ala Ser Asp Val Ile
65 70 75
Lys Glu Glu Phe Pro Asn Glu Asn Gln Val Val Phe Ala Arg Val
80 85 90
Asp Cys Asp Gln His Ser Asp Ile Ala Gln Arg Tyr Arg Ile Ser
95 100 105
Lys Tyr Pro Thr Leu Lys Leu Phe Arg Asn Gly Met Met Met Lys
110 115 120
Arg Glu Tyr Arg Gly Gln Arg Ser Val Lys Ala Leu Ala Asp Tyr
125 130 135
Ile Arg Gln Gln Lys Ser Asp Pro Ile Gln Glu Ile Arg Asp Leu
140 145 150
Ala Glu Ile Thr Thr Leu Asp Arg Ser Lys Arg Asn Ile Ile Gly
155 160 165

Tyr	Phe	Glu	Gln	Lys	Asp	Ser	Asp	Asn	Tyr	Arg	Val	Phe	Glu	Arg
				170					175					180
Val	Ala	Asn	Ile	Leu	His	Asp	Asp	Cys	Ala	Phe	Leu	Ser	Ala	Phe
				185					190					195
Gly	Asp	Val	Ser	Lys	Pro	Glu	Arg	Tyr	Ser	Gly	Asp	Asn	Ile	Ile
				200					205					210
Tyr	Lys	Pro	Pro	Gly	His	Ser	Ala	Pro	Asp	Met	Val	Tyr	Leu	Gly
				215					220					225
Ala	Met	Thr	Asn	Phe	Asp	Val	Thr	Tyr	Asn	Trp	Ile	Gln	Asp	Lys
				230					235					240
Cys	Val	Pro	Leu	Val	Arg	Glu	Ile	Thr	Phe	Glu	Asn	Gly	Glu	Glu
				245					250					255
Leu	Thr	Glu	Glu	Gly	Leu	Pro	Phe	Leu	Ile	Leu	Phe	His	Met	Lys
				260					265					270
Glu	Asp	Thr	Glu	Ser	Leu	Glu	Ile	Phe	Gln	Asn	Glu	Val	Ala	Arg
				275					280					285
Gln	Leu	Ile	Ser	Glu	Lys	Gly	Thr	Ile	Asn	Phe	Leu	His	Ala	Asp
				290					295					300
Cys	Asp	Lys	Phe	Arg	His	Pro	Leu	Leu	His	Ile	Gln	Lys	Thr	Pro
				305					310					315
Ala	Asp	Cys	Pro	Val	Ile	Ala	Ile	Asp	Ser	Phe	Arg	His	Met	Tyr
				320					325					330
Val	Phe	Gly	Asp	Phe	Lys	Asp	Val	Leu	Ile	Pro	Gly	Lys	Leu	Lys
				335					340					345
Gln	Phe	Val	Phe	Asp	Leu	His	Ser	Gly	Lys	Leu	His	Arg	Glu	Phe
				350					355					360
His	His	Gly	Pro	Asp	Pro	Thr	Asp	Thr	Ala	Pro	Gly	Glu	Gln	Ala
				365					370					375
Gln	Asp	Val	Ala	Ser	Ser	Pro	Pro	Glu	Ser	Ser	Phe	Gln	Lys	Leu
				380					385					390
Ala	Pro	Ser	Glu	Tyr	Arg	Tyr	Thr	Leu	Leu	Arg	Asp	Arg	Asp	Glu
				395					400					405

Leu

```
<210> 310
<211> 182
<212> DNA
<213> Homo sapiens
```

<220>
<221> unsure

<222> 36, 48
 <223> unknown base

 <400> 310
 attaaggaag aattttccaaa tgaaaatcaa gtagtntttg ccagagtnga 50
 ttgtgatcag cactctgaca tagcccagag atacaggata agcaaatacc 100
 caaccctcaa attgtttcgt aatgggatga tgatgaagag agaatacagg 150
 ggtcagcgat cagtgaagc attggcagat ta 182

 <210> 311
 <211> 598
 <212> DNA
 <213> Homo sapiens

 <220>
 <221> unsure
 <222> 38, 59, 140, 169, 174, 183, 282-283, 294-295, 319, 396
 <223> unknown base

<400> 311
 agaggcctct ctggaagttg tcccgggtgt tcgccgcnng agcccgggtc 50
 gagaggacna ggtgccgctg cctggagaat cctccgctgc cgtcggctcc 100
 cggagcccag ccctttccta acccaacca acctagccn gtcccagccg 150
 ccagcgctg tccctgtcnc gganccagc gtnaccatgc atcctgccgt 200
 cttcctatcc ttaccgacc tcagatgctc cttctgctc ctggtaactt 250
 gggtttttac tcctgtaaca actgaaataa cnngtcttga tacnagaat 300
 atagatgaaa ttttaaacna tgctgatgtg gctttagtca atttttatgc 350
 tgactgggtg cgtttcagtc agatgtggca tccaattttt gaggangctt 400
 ccgatgtcat taaggaagaa tttccaaatg aaaatcaagt agtgtttgcc 450
 agagttgatt gtgatcagca ctctgacata gcccagagat acaggataag 500
 caaataccca accctcaaat tgtttcgtaa tgggatgatg atgaagagag 550
 aatacagggg tcagcgatca gtgaaagcat tggcagatta catcaggc 598

<210> 312
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 312
 tgagaggcct ctctggaagt tg 22

<210> 313
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 313
gtcagcgatc agtgaaagc 19

<210> 314
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 314
ccagaatgaa gtagctcggc 20

<210> 315
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 315
ccgactcaaa atgcattgtc 20

<210> 316
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 316
catttggcag gaattgtcc 19

<210> 317
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 317
ggtgctatag gccaaagg 18

<210> 318
<211> 24
<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 318

ctgtatctct gggctatgtc agag 24

<210> 319

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 319

ctacatataa tggcacatgt cagcc 25

<210> 320

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 320

cgtcttcccta tccttaccgc acctcagatg ctcccttctg ctccctg 46

<210> 321

<211> 1333

<212> DNA

<213> Homo sapiens

<400> 321

gcccacgcgt ccgatggcgt tcacgttcgc ggccttctgc tacatgctgg 50

cgctgctgct cactgccgcg ctcatcttct tcgccatttg gcacattata 100

gcatttgatg agctgaagac tgattacaag aatcctatag accagtgtaa 150

taccctgaat ccccttgtag tcccagagta cctcatccac gctttcttct 200

gtgtcatgtt tctttgtgca gcagagtggc ttacactggg tctcaatatg 250

cccctcttgg catatcatat ttggaggtat atgagtagac cagtgatgag 300

tggcccagga ctctatgacc ctacaacccat catgaatgca gatattctag 350

catattgtca gaaggaagga tgggtgcaa tagcttttta tcttctagca 400

tttttttact acctatatgg catgatctat gttttggtga gctcttagaa 450

caacacacag aagaattggt ccagttaagt gcatgcaaaa agccaccaaa 500

tgaagggtatt ctatccagca agatcctgtc caagagtagc ctgtggaatc 550

tgatcagtta ctttaaaaaa tgactcctta ttttttaa at gtttccacat 600
 ttttgcttgt ggaaagactg ttttcatatg ttatactcag ataaagattt 650
 taaatgggtat tacgtataaa ttaatatata atgattacct ctgggtgttga 700
 caggtttgaa ctgcacttc ttaaggaaca gccataatcc tctgaatgat 750
 gcattaatta ctgactgtcc tagtacattg gaagcttttg tttataggaa 800
 cttgtagggc tcatttttgg ttcattgaaa cagtatctaa ttataaatta 850
 gctgtagata tcagggtgctt ctgatgaagt gaaaatgtat atctgactag 900
 tgggaaaactt catgggtttc ctcatctgtc atgtc gatga ttatatatgg 950
 atacattttac aaaaataaaa agcgggaatt ttcccttcgc ttgaatatta 1000
 tccctgtata ttgcatgaat gagagatttc ccatatttcc atcagagtaa 1050
 taaatatact tgctttaatt ctttaagcata agtaaacaatg atataaaaaat 1100
 atatgctgaa ttacttgtga agaatgcatt taaagctatt ttaa atgtgt 1150
 ttttatttgt aagacattac ttattaagaa attggttatt atgcttactg 1200
 ttcta atctg gtggtaaagg tattcttaag aatttgcagg tactacagat 1250
 tttcaaaact gaatgagaga aaattgtata accatcctgc tgttccttta 1300
 gtgcaataca ataaaactct gaaattaaga ctc 1333

<210> 322

<211> 144

<212> PRT

<213> Homo sapiens

<400> 322

Met	Ala	Phe	Thr	Phe	Ala	Ala	Phe	Cys	Tyr	Met	Leu	Ala	Leu	Leu
1				5					10					15
Leu	Thr	Ala	Ala	Leu	Ile	Phe	Phe	Ala	Ile	Trp	His	Ile	Ile	Ala
				20					25					30
Phe	Asp	Glu	Leu	Lys	Thr	Asp	Tyr	Lys	Asn	Pro	Ile	Asp	Gln	Cys
				35					40					45
Asn	Thr	Leu	Asn	Pro	Leu	Val	Leu	Pro	Glu	Tyr	Leu	Ile	His	Ala
				50					55					60
Phe	Phe	Cys	Val	Met	Phe	Leu	Cys	Ala	Ala	Glu	Trp	Leu	Thr	Leu
				65					70					75
Gly	Leu	Asn	Met	Pro	Leu	Leu	Ala	Tyr	His	Ile	Trp	Arg	Tyr	Met
				80					85					90
Ser	Arg	Pro	Val	Met	Ser	Gly	Pro	Gly	Leu	Tyr	Asp	Pro	Thr	Thr
				95					100					105

Ile	Met	Asn	Ala	Asp	Ile	Leu	Ala	Tyr	Cys	Gln	Lys	Glu	Gly	Trp
				110					115					120
Cys	Lys	Leu	Ala	Phe	Tyr	Leu	Leu	Ala	Phe	Phe	Tyr	Tyr	Leu	Tyr
				125					130					135
Gly	Met	Ile	Tyr	Val	Leu	Val	Ser	Ser						
				140										

<210> 323
 <211> 477
 <212> DNA
 <213> Homo sapiens

<400> 323
 attatagcat ttgatgagct gaagactgat tacaagatcc tatagaccag 50
 tgtaataccc tgaatcccct tgtactcca gactaccta tccacgcttt 100
 cttctgtgtc atgtttcttt gtgcagcaga gtggcttaca ctgggtctca 150
 atatgcccct cttggcatat catatttggg ggtatatgag tagaccagt 200
 atgagtggcc caggactcta tgaccctaca accatcatga atgcagatat 250
 tctagcatat tgtcagaagg aaggatgggt caaattagct ttttatcttc 300
 tagcattttt ttactaccta tatggcatga tctatgtttt ggtgagctct 350
 tagaacaaca cacagaagaa ttggtccagt taagtgcatt caaaaagcca 400
 ccaaataaag ggattctatc cagcaagatc ctgtccaaga gtagcctgtg 450
 gaatctgatc agttacttta aaaaatg 477

<210> 324
 <211> 43
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 324
 tgtaaaacga cggccagtta aatagacctg caattattaa tct 43

<210> 325
 <211> 41
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 325
 caggaaacag ctatgaccac ctgcacacct gcaaattccat t 41

<210> 326

<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 326
gtgcagcaga gtggcttaca 20

<210> 327
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 327
actggaccaa ttcttctgtg 20

<210> 328
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 328
gatattctag catattgtca gaaggaagga tggcgcaaat tagct 45

<210> 329
<211> 1174
<212> DNA
<213> Homo sapiens

<400> 329
cggacgcgtg ggggaaaccc ttccgagaaa acagcaacaa gctgagctgc 50
tgtgacagag gggaacaaga tggcggcgcc gaaggggagc ctctgggtga 100
ggacccaact ggggctcccg ccgctgctgc tgctgaccat ggccttggcc 150
ggaggttcgg ggaccgcttc ggctgaagca tttgactcgg tcttgggtga 200
tacggcgtct tgccaccggg cctgtcagtt gacctacccc ttgcacacct 250
accctaagga agaggagttg tacgcatgtc agagaggttg caggctgttt 300
tcaatttgtc agtttgtgga tgatggaatt gacttaaadc gaactaaatt 350
ggaatgtgaa tctgcatgta cagaagcata ttcccaatct gatgagcaat 400
atgcttgcca tcttggttgc cagaatcagc tgccattcgc tgaactgaga 450
caagaacaac ttatgtccct gatgccaaaa atgcacctac tctttcctct 500

aactgagaca agaacaactt atgtccctga tgccaaaaat gcacctactc 300
 tttcctctaa ctctggtgag gtcattctgg agtgacatga tggactccgc 350

<210> 332
 <211> 562
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 47
 <223> unknown base

<400> 332
 cacactggcc ggatctttta ggtcctttg accttgacca agggtcngga 50
 aaacagcaac aagctgagct gctgtgacag agggaacaag atggcggcgc 100
 cgaagggagc ctttgggtga ggacccaact ggggctcccg ccgctgctgc 150
 tgctgaccat ggccttggcc ggaggttcgg ggaccgcttc ggctgaagca 200
 tttgactcgg tcttgggtga tacggcgtct tgccaccggg cctgtcagtt 250
 gacctacccc ttgcacacct accctaagga agaggagttg tacgcatgtc 300
 agagagggtg caggctgttt tcaatttgtc agtttgtgga tgatggaatt 350
 gacttaaadc gaactaaatt ggaatgtgaa tctgcatgta cagaagcata 400
 ttcccaatct gatgagcaat atgcttgcca tcttggttgc cagaatcagc 450
 tgccattcgc tgaactgaga caagaacaac ttatgtccct gatgccaaaa 500
 atgcacctac tctttcctct aactctggtg aggtcattct ggagtgcacat 550
 gatggactcc gc 562

<210> 333
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 333
 acaagctgag ctgctgtgac ag 22

<210> 334
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 334
tgattctggc aaccaagatg gc 22

<210> 335

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 335

atggccttgg ccggaggttc ggggaccgct tcggctgaag 40

<210> 336

<211> 1885

<212> DNA

<213> Homo sapiens

<400> 336

gcgaggtggc gatcgctgag aggcaggagg gccgaggcgg gcctgggagg 50
cgggccggag gtggggcgcc gctggggccg gccgcacgg gcttcatctg 100
agggcgacg gcccgcgacc gagcgtgcgg actggcctcc caagcgtggg 150
gcgacaagct gccggagctg caatgggccg cggctgggga ttcttgtttg 200
gcctcctggg cgccgtgtgg ctgctcagct cgggccacgg agaggagcag 250
cccccgaga cagcggcaca gaggtgcttc tgccaggta gtggttactt 300
ggatgattgt acctgtgatg ttgaaaccat tgatagattt aataactaca 350
ggcttttccc aagactacaa aaacttcttg aaagtgacta ctttaggtat 400
tacaaggtaa acctgaagag gccgtgtcct ttctggaatg acatcagcca 450
gtgtggaaga agggactgtg ctgtcaaacc atgtcaatct gatgaagttc 500
ctgatggaat taaatctgcg agctacaagt attctgaaga agccaataat 550
ctcattgaag aatgtgaaca agctgaacga cttggagcag tggatgaatc 600
tctgagttag gaaacacaga aggctgttct tcagtggacc aagcatgatg 650
attcttcaga taacttctgt gaagctgatg acattcagtc ccctgaagct 700
gaatatgtag atttgcttct taatcctgag cgctacactg gttacaaggg 750
accagatgct tggaaaatat ggaatgtcat ctacgaagaa aactgtttta 800
agccacagac aattaaaaga cctttaaatc ctttggcttc tggtaaggg 850
acaagtgaag agaacacttt ttacagttgg ctagaaggtc tctgtgtaga 900
aaaaagagca ttctacagac ttatatctgg cctacatgca agcattaatg 950

tgcatttgag tgcaagatat cttttacaag agacctggtt agaaaagaaa 1000
 tggggacaca acattacaga atttcaacag cgatttgatg gaattttgac 1050
 tgaaggagaa ggtccaagaa ggcttaagaa cttgtatttt ctctacttaa 1100
 tagaactaag ggcttttatcc aaagtgttac cattcttcga gcgcccagat 1150
 tttcaactct ttactggaaa taaaattcag gatgaggaaa acaaaatggt 1200
 acttctggaa atacttcatg aaatcaagtc atttcctttg cattttgatg 1250
 agaattcatt ttttgctggg gataaaaaag aagcacacaa actaaaggag 1300
 gactttcgac tgcatttttag aaatatttca agaattatgg attgtgttgg 1350
 ttgtttttaa tgtcgtctgt ggggaaagct tcagactcag ggtttgggca 1400
 ctgctctgaa gatcttattt tctgagaaat tgatagcaaa tatgccagaa 1450
 agtggaccta gttatgaatt ccatctaacc agacaagaaa tagtatcatt 1500
 attcaacgca tttggaagaa tttctacaag tgtgaaagaa ttagaaaact 1550
 tcaggaactt gttacagaat attcattaaa gaaaacaagc tgatatgtgc 1600
 ctgtttctgg acaatggagg cgaaagagtg gaatttcatt caaaggcata 1650
 atagcaatga cagtcttaag ccaaacattt tatataaagt tgcttttgta 1700
 aaggagaatt atattgtttt aagtaaacac atttttaaaa attgtgttaa 1750
 gtctatgtat aatactactg tgagtaaaag taatacttta ataatgtgg 1800
 acaaatttta aagtttaata ttgaataaaa ggaggattat caaattaaaa 1850
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 1885

<210> 337

<211> 468

<212> PRT

<213> Homo sapiens

<400> 337

Met	Gly	Arg	Gly	Trp	Gly	Phe	Leu	Phe	Gly	Leu	Leu	Gly	Ala	Val
1				5					10					15

Trp	Leu	Leu	Ser	Ser	Gly	His	Gly	Glu	Glu	Gln	Pro	Pro	Glu	Thr
			20					25						30

Ala	Ala	Gln	Arg	Cys	Phe	Cys	Gln	Val	Ser	Gly	Tyr	Leu	Asp	Asp
			35						40					45

Cys	Thr	Cys	Asp	Val	Glu	Thr	Ile	Asp	Arg	Phe	Asn	Asn	Tyr	Arg
			50						55					60

Leu	Phe	Pro	Arg	Leu	Gln	Lys	Leu	Leu	Glu	Ser	Asp	Tyr	Phe	Arg
			65						70					75

365	370	375
Glu Asp Phe Arg Leu His Phe Arg Asn Ile Ser Arg Ile Met Asp		
380	385	390
Cys Val Gly Cys Phe Lys Cys Arg Leu Trp Gly Lys Leu Gln Thr		
395	400	405
Gln Gly Leu Gly Thr Ala Leu Lys Ile Leu Phe Ser Glu Lys Leu		
410	415	420
Ile Ala Asn Met Pro Glu Ser Gly Pro Ser Tyr Glu Phe His Leu		
425	430	435
Thr Arg Gln Glu Ile Val Ser Leu Phe Asn Ala Phe Gly Arg Ile		
440	445	450
Ser Thr Ser Val Lys Glu Leu Glu Asn Phe Arg Asn Leu Leu Gln		
455	460	465

Asn Ile His

<210> 338
 <211> 507
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 101, 263, 376, 397, 426
 <223> unknown base

<400> 338
 gctggaaata tggatgtcat ctacgagaaa ctgttttaag ccacagacaa 50
 ttaaaagacc tttaaatoct ttggcttctg gtcaagggac aagtgaagag 100
 nacacttttt acagttggct agaaggtctc tgtgtagaaa aaagagcatt 150
 ctacagactt atatctggcc tacatgcaag cattaatgtg ctttgagtg 200
 caagatatct tttaacaagag acctgggttag aaaagaaatg gggacacaac 250
 attacagaat ttnaacagcg atttgatgga attttgactg aaggagaagg 300
 tccaagaagg cttaagaact tgtattttct ctacttaata gaactaaggg 350
 ctttatccaa agtggtacca ttcttngagc gccagattt tcaactnttt 400
 actggaaata aaattcagga tgaggnaaac aaaatgttac ttttgaaat 450
 acttcatgaa atcaagtcac ttcctttgca ttttgatgag aattcatttt 500
 tttgctg 507

<210> 339
 <211> 20

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 339
 aagctgccgg agctgcaatg 20

 <210> 340
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 340
 ttgcttctta atcctgagcg c 21

 <210> 341
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 341
 aaaggaggac tttcgactgc 20

 <210> 342
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 342
 agagattcat ccaactgctcc aagtcg 26

 <210> 343
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 343
 tgtccagaaa caggcacata tcagc 25

 <210> 344
 <211> 50
 <212> DNA
 <213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 344
agacagcggc acagaggtgc ttctgccagg ttagtggtta cttggatgat 50

<210> 345
<211> 1486
<212> DNA
<213> Homo sapiens

<400> 345
cggacgcgtg ggcggacgcg tgggcggacg cgtgggttgg gagggggcag 50
gatgggaggg aaagtgaaga aaacagaaaa ggagagggac agaggccaga 100
ggactttctca tactggacag aaaccgatca ggcatggaac tccccttcgt 150
cactcacctg ttcttgcccc tgggtgttct gacaggtctc tgctccccct 200
ttaacctgga tgaacatcac ccacgcctat tcccagggcc accagaagct 250
gaatttggat acagtgtctt acaacatgtt gggggtggac agcgatggat 300
gctgggtggc gccccctggg atgggccttc aggcgaccgg aggggggacg 350
tttatcgctg ccctgtaggg gggggccaca atgccccatg tgccaagggc 400
cacttaggtg actaccaact gggaaattca tctcatcctg ctgtgaatat 450
gcacctgggg atgtctctgt tagagacaga tggatgatgg ggattcatgg 500
tgagctaagg agaggggtgg ggcagtgtct ctgaaggtcc ataaaagaaa 550
aaagagaagt gtggaagg gaaatggctt gtgtggagg gtcaaggagt 600
taaaaaccct agaaagcaaa aggtaggtta tgtcaggag tagtcttcat 650
gcctccttca actgggagca tgttctgagg gtgccctccc aagcctggga 700
gtaactatct ccccatccc caggcctgtg cccctctctg gtctcgtgct 750
tgtggcagct ctgtcttcag ttctgggata tgtgccctg tggatgcttc 800
attccagcct cagggaagcc tggcaccac tgccaacgt gagccagagg 850
aaggctgagt acttggttcc cagaaggaga tactgggtgg gaaaaagatg 900
gggcaaagcg gtatgatgcc tggcaaagg cctgcatggc tatcctcatt 950
gctacctaat gtgcttgcaa aagctccatg tttcctaaca gattcagact 1000
cctggccagg tgtggtggcc cacacctgta attctagcac tttgggaggc 1050
caaggtgggc agatcacttg aggtcaggag ttcaagacca gcctggccaa 1100
catggtgaaa ctccatctct actaaaaaaaa aaaaaatata aaaattagct 1150

```

gggtgcgcta gtgcatgcct gtaatctcat ctactcggga ggctaagaca 1200
ggagactctc acttcaaccc aggaggtgga ggttgcggtg agccaagatt 1250
gtgcctctgc actctagcgt ggggtgacaga gtaagcgaga ctccatctca 1300
aaaataataa taataataat tcagactcct tatcaggagt ccatgatctg 1350
gcctggcaca gtaactcatg cctgtaatcc caacattttg ggaggccaac 1400
gcaggaggat tgcttgaggt ctggaggttt gagaccagcc tgggcaacat 1450
agaaagaccc catctctaaa taaatgtttt aaaaat 1486

```

```

<210> 346
<211> 124
<212> PRT
<213> Homo sapiens

```

```

<400> 346
Met Glu Leu Pro Phe Val Thr His Leu Phe Leu Pro Leu Val Phe
 1          5          10          15
Leu Thr Gly Leu Cys Ser Pro Phe Asn Leu Asp Glu His His Pro
          20          25          30
Arg Leu Phe Pro Gly Pro Pro Glu Ala Glu Phe Gly Tyr Ser Val
          35          40          45
Leu Gln His Val Gly Gly Gly Gln Arg Trp Met Leu Val Gly Ala
          50          55          60
Pro Trp Asp Gly Pro Ser Gly Asp Arg Arg Gly Asp Val Tyr Arg
          65          70          75
Cys Pro Val Gly Gly Ala His Asn Ala Pro Cys Ala Lys Gly His
          80          85          90
Leu Gly Asp Tyr Gln Leu Gly Asn Ser Ser His Pro Ala Val Asn
          95          100          105
Met His Leu Gly Met Ser Leu Leu Glu Thr Asp Gly Asp Gly Gly
          110          115          120

Phe Met Val Ser

```

```

<210> 347
<211> 509
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> unsure
<222> 22
<223> unknown base
<400> 347

```

cacagttccc caccatcact cntcccatc cttccaactt tatttttagc 50
 ttgccattgg gagggggcag gatgggaggg aaagtgaaga aaacagaaaa 100
 ggagagggac agaggccaga ggactttctca tactggacag aaaccgatca 150
 ggcatggaac tccccttcgt cactcacctg ttcttgcccc tgggtgttct 200
 gacaggtctc tgctccccct ttaacctgga tgaacatcac ccacgcctat 250
 tcccagggcc accagaagct gaatttggat acagtgtctt acaacatgtt 300
 gggggtggac agcgatggat gctgggtggc gccccctggg atgggccttc 350
 aggcgaccgg aggggggacg tttatcgctg ccctgtaggg ggggccaca 400
 atgccccatg tgccaagggc cacttaggtg actaccaact gggaaattca 450
 tctcatcctg ctgtgaatat gcacctggg atgtctctgt tagagacaga 500
 tggatgatgg 509

<210> 348
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 348
 agggacagag gccagaggac ttc 23

 <210> 349
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 349
 caggtgcata ttcacagcag gatg 24

 <210> 350
 <211> 45
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 350
 ggaactcccc ttcgtcactc acctgttctt gccccctggg ttct 45

 <210> 351
 <211> 2056
 <212> DNA

<213> Homo sapiens

<400> 351

aaagttacat tttctctgga actctcctag gccactccct gctgatgcaa 50
catctggggt tgggcagaaa ggagggtgct tcggagcccg ccccttctga 100
gcttcctggg ccggctctag aacaattcag gcttcgctgc gactcagacc 150
tcagctccaa catatgcatt ctgaagaaag atggctgaga tggacagaat 200
gctttatctt ggaaagaaac aatgttctag gtcaaactga gtctacaaa 250
tgcagacttt cacaatgggt ctagaagaaa tctggacaag tcttttcatg 300
tggtttttct acgcattgat tccatgtttg ctcacagatg aagtggccat 350
tctgcctgcc cctcagaacc tctctgtact ctcaaccaac atgaagcatc 400
tcttgatgtg gagcccagtg atcgcgcctg gagaaacagt gtactattct 450
gtcgaatacc agggggagta cgagagcctg tacacgagcc acatctggat 500
ccccagcagc tgggtgctcac tactgaagg tcttgagtgt gatgtcactg 550
atgacatcac ggccactgtg ccatacaacc ttcgtgtcag ggccacattg 600
ggctcacaga cctcagcctg gagcatcctg aagcatccct ttaatagaaa 650
ctcaaccatc cttacccgac ctgggatgga gatcaccaaa gatggcttcc 700
acctggttat tgagctggag gacctggggc ccagtttga gttccttgtg 750
gcctactgga ggaggagacc tggtgccgag gaacatgtca aaatggtgag 800
gagtgggggt attccagtg cactagaaac catggagcca ggggctgcat 850
actgtgtgaa ggcccagaca ttcgtgaagg ccattgggag gtacagcgcc 900
ttcagccaga cagaatgtgt ggagggtgcaa ggagaggcca tccccctgg 950
actggccctg tttgcctttg ttggcttcat gctgatcctt gtggtcgtgc 1000
cactgttcgt ctggaaaatg ggccggctgc tccagtactc ctgttgcccc 1050
gtggtggtcc tcccagacac cttgaaaata accaattcac cccagaagtt 1100
aatcagctgc agaaggagg aggtggatgc ctgtgccacg gctgtgatgt 1150
ctcctgagga actcctcagg gcctggatct cataggtttg cggaagggcc 1200
caggtgaagc cgagaacctg gtctgcatga catggaaacc atgaggggac 1250
aagttgtgtt tctgttttcc gccacggaca agggatgaga gaagtaggaa 1300
gagcctgttg tctacaagtc tagaagcaac catcagaggc agggtggttt 1350
gtctaacaga aactgactg aggcctaggg gatgtgacct ctagactggg 1400

Thr	Ser	Ala	Trp	Ser	Ile	Leu	Lys	His	Pro	Phe	Asn	Arg	Asn	Ser	125	130	135
Thr	Ile	Leu	Thr	Arg	Pro	Gly	Met	Glu	Ile	Thr	Lys	Asp	Gly	Phe	140	145	150
His	Leu	Val	Ile	Glu	Leu	Glu	Asp	Leu	Gly	Pro	Gln	Phe	Glu	Phe	155	160	165
Leu	Val	Ala	Tyr	Trp	Arg	Arg	Glu	Pro	Gly	Ala	Glu	Glu	His	Val	170	175	180
Lys	Met	Val	Arg	Ser	Gly	Gly	Ile	Pro	Val	His	Leu	Glu	Thr	Met	185	190	195
Glu	Pro	Gly	Ala	Ala	Tyr	Cys	Val	Lys	Ala	Gln	Thr	Phe	Val	Lys	200	205	210
Ala	Ile	Gly	Arg	Tyr	Ser	Ala	Phe	Ser	Gln	Thr	Glu	Cys	Val	Glu	215	220	225
Val	Gln	Gly	Glu	Ala	Ile	Pro	Leu	Val	Leu	Ala	Leu	Phe	Ala	Phe	230	235	240
Val	Gly	Phe	Met	Leu	Ile	Leu	Val	Val	Val	Pro	Leu	Phe	Val	Trp	245	250	255
Lys	Met	Gly	Arg	Leu	Leu	Gln	Tyr	Ser	Cys	Cys	Pro	Val	Val	Val	260	265	270
Leu	Pro	Asp	Thr	Leu	Lys	Ile	Thr	Asn	Ser	Pro	Gln	Lys	Leu	Ile	275	280	285
Ser	Cys	Arg	Arg	Glu	Glu	Val	Asp	Ala	Cys	Ala	Thr	Ala	Val	Met	290	295	300
Ser	Pro	Glu	Glu	Leu	Leu	Arg	Ala	Trp	Ile	Ser					305	310	

<210> 353

<211> 864

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 654, 711, 748, 827

<223> unknown base

<400> 353

tcctgtgat gcacatctgg gtttggcaaa aggaggttgc ttcgagccgc 50

cctttctagc ttcttgcccg gctctagaac aattcaggct tcgctgcgac 100

tagacctcag ctccaacata tgcattctga agaaagatgg ctgagatgac 150

agaatgcttt attttggaaa gaaacaatgt tctaggtcaa actgagtcta 200

ccaaatgcag actttcacaa tggttctaga agaaatctgg acaagtcttt 250
 tcatgtggtt tttctacga ttgattccat gtttgctcac agatgaagtg 300
 gccattctgc ctgcccctca gaacctctct gtactctcaa ccaacatgaa 350
 gcatctcttg atgtggagcc cagtgatcgc gcctggagaa acagtgtact 400
 attctgtcga ataccagggg gagtacgaga gcctgtacac gagccacatc 450
 tggatcccca gcagctggtg ctcaactcact gaaggtcctg agtgtgatgt 500
 cactgatgac atcacggcca ctgtgccata caacctttgt gtcagggcca 550
 cattgggctc acagacctca gcctggagca tcctgaagca tccctttaat 600
 agaaactcaa ccatccttac ccgacctggg atggagatca ccaaagatgg 650
 cttncacctg gttattgagc tggaggacct ggggccccag tttgagttcc 700
 ttgtggccta ntggaggagg ggcgaacccc ttgcggcgca aggggttngc 750
 gaacccttg cggccgttg ggtatctctc gagaaaagag agggccaata 800
 tgaccacat actcaatat gacgaantgc tattgtccac ctgtttgagt 850
 ggcgctgggt tgat 864

<210> 354

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 354

aggcttcgct gcgactagac ctc 23

<210> 355

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 355

ccaggtcggg taaggatggt tgag 24

<210> 356

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

```

<400> 356
tttctacgca ttgattocat gtttgctcac agatgaagtg gccattctgc 50

<210> 357
<211> 1670
<212> DNA
<213> Homo sapiens

<400> 357
cccacgcgtc cgcccacgog tccgagggac aagagagaag agagactgaa 50
acagggagaa gaggcaggag aggaggaggt ggggagagca cgaagctgga 100
ggccgacact gagggagggc gggaggaggt gaagaaggag agaggggaga 150
agaggcagga gctggaaagg agagagggag gaggaggagg agatgcggga 200
tggagacctg gagttaggtg gcttgggaga gcttaatgaa aagagaacgg 250
agaggaggtg tgggttagga accaagaggt agccctgtgg gcagcagaag 300
gctgagagga gtaggaagat caggagctag agggagactg gagggttccg 350
ggaaaagagc agaggaaaga ggaaagacac agagagacgg gagagagaag 400
aagagtgggt ttgaagggcg gatctcagtc cctggctgct ttggcatttg 450
gggaactggg actccctgtg gggaggagag gaaagctgga agtcctggag 500
ggacagggtc ccagaaggag gggacagagg agctgagaga ggggggcagg 550
gcgttgggca ggggtccctc ggaggcctcc tggggatggg ggctgcagct 600
cgtctgagcg cccctcgagc gctgggtactc tgggctgcac tgggggcagc 650
agctcacatc ggaccagcac ctgaccccca ggactgggtg agctacaagg 700
ataatctcca gggaaacttc gtgccagggc ctcccttctg gggcctgggtg 750
aatgcagcgt ggagtctgtg tgctgtgggg aagcggcaga gccccgtgga 800
tgtggagctg aagaggggttc tttatgacct ctttctgccc ccattaaggc 850
tcagcaactg aggagagaag ctccggggaa ccttgtacaa caccggccga 900
catgtctcct tcttgctgc accccgacct gtggtcaatg tgtctggagg 950
tccccctcct tacagccacc gactcagtga actgcggctg ctgtttggag 1000
ctcgcgacgg agccggctcg gaacatcaga tcaaccacca gggcttctct 1050
gctgaggtgc agctcattca cttcaaccag gaactctacg ggaatttcag 1100
cgctgcctcc cgcggcccca atggcctggc cattctcagc ctctttgtca 1150
acgttgccag tacctctaac ccattcctca gtcgcctcct taaccgcgac 1200
accatcactc gcatctccta caagaatgat gcctactttc ttcaagacct 1250

```


gagcctggag ctctgttcc ctgaatcctt cggcttcac acctatcagg 1300
gctctctcag caccgccccc tgctccgaga ctgtcacctg gatcctcatt 1350
gaccgggccc tcaatatcac ctcccttcag atgcactccc tgagactcct 1400
gagccagaat cctccatctc agatcttcca gagcctcagc ggtaacagcc 1450
ggccccctgca gcccttggcc cacagggcac tgaggggcaa cagggacccc 1500
cggcaccccc agaggcgctg ccgaggcccc aactaccgcc tgcattgtgga 1550
tggtgtcccc catggtcgct gagactcccc ttcgaggatt gcacccgccc 1600
gtcctaagcc tccccacaag gcgaggggag ttaccacctaa aacaaagcta 1650
ttaaaggac agaatactta 1670

<210> 358
<211> 328
<212> PRT
<213> Homo sapiens

<400> 358
Met Gly Ala Ala Ala Arg Leu Ser Ala Pro Arg Ala Leu Val Leu
1 5 10 15
Trp Ala Ala Leu Gly Ala Ala Ala His Ile Gly Pro Ala Pro Asp
20 25 30
Pro Glu Asp Trp Trp Ser Tyr Lys Asp Asn Leu Gln Gly Asn Phe
35 40 45
Val Pro Gly Pro Pro Phe Trp Gly Leu Val Asn Ala Ala Trp Ser
50 55 60
Leu Cys Ala Val Gly Lys Arg Gln Ser Pro Val Asp Val Glu Leu
65 70 75
Lys Arg Val Leu Tyr Asp Pro Phe Leu Pro Pro Leu Arg Leu Ser
80 85 90
Thr Gly Gly Glu Lys Leu Arg Gly Thr Leu Tyr Asn Thr Gly Arg
95 100 105
His Val Ser Phe Leu Pro Ala Pro Arg Pro Val Val Asn Val Ser
110 115 120
Gly Gly Pro Leu Leu Tyr Ser His Arg Leu Ser Glu Leu Arg Leu
125 130 135
Leu Phe Gly Ala Arg Asp Gly Ala Gly Ser Glu His Gln Ile Asn
140 145 150
His Gln Gly Phe Ser Ala Glu Val Gln Leu Ile His Phe Asn Gln
155 160 165
Glu Leu Tyr Gly Asn Phe Ser Ala Ala Ser Arg Gly Pro Asn Gly

170	175	180
Leu Ala Ile Leu Ser Leu Phe Val Asn	Val Ala Ser Thr Ser Asn	
185	190	195
Pro Phe Leu Ser Arg Leu Leu Asn Arg	Asp Thr Ile Thr Arg Ile	
200	205	210
Ser Tyr Lys Asn Asp Ala Tyr Phe Leu	Gln Asp Leu Ser Leu Glu	
215	220	225
Leu Leu Phe Pro Glu Ser Phe Gly Phe	Ile Thr Tyr Gln Gly Ser	
230	235	240
Leu Ser Thr Pro Pro Cys Ser Glu Thr	Val Thr Trp Ile Leu Ile	
245	250	255
Asp Arg Ala Leu Asn Ile Thr Ser Leu	Gln Met His Ser Leu Arg	
260	265	270
Leu Leu Ser Gln Asn Pro Pro Ser Gln	Ile Phe Gln Ser Leu Ser	
275	280	285
Gly Asn Ser Arg Pro Leu Gln Pro Leu	Ala His Arg Ala Leu Arg	
290	295	300
Gly Asn Arg Asp Pro Arg His Pro Glu	Arg Arg Cys Arg Gly Pro	
305	310	315
Asn Tyr Arg Leu His Val Asp Gly Val	Pro His Gly Arg	
320	325	

<210> 359
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 359
 tctgctgagg tgcagctcat tcac 24

<210> 360
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 360
 gaggtctgg aagatctgag atgg 24

<210> 361
 <211> 50
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 361

gcctctttgt caacgttgcc agtacctcta acccattcct cagtcgcctc 50

<210> 362

<211> 3038

<212> DNA

<213> Homo sapiens

<400> 362

ggcgctggt tctgcgcgta ctggctgtac ggagcaggag caagaggtcg 50

ccgccagcct ccgccgcoga gcctcgttcg tgtccccgcc cctcgctcct 100

gcagctactg ctcagaaaacg ctggggcgcc caccctggca gactaacgaa 150

gcagctccct tcccacccca actgcaggtc taattttgga cgctttgcct 200

gccatttctt ccaggttgag ggagccgcag aggcggaggc tcgctattc 250

ctgcagtcag caccacgct gcccccggac gctcgggtgct caggcccttc 300

gcgagcgggg ctctccgtct gcggtccctt gtgaaggctc tgggcggctg 350

cagaggccgg ccgtccggtt tggctcacct ctcccaggaa acttcacact 400

ggagagccaa aaggagtgga agagcctgtc ttggagattt tcctggggaa 450

atcctgaggt cattcattat gaagtgtacc gcgcgggagt ggctcagagt 500

aaccacagtg ctgttcatgg ctagagcaat tccagccatg gtggttccca 550

atgccacttt attggagaaa cttttggaaa aatacatgga tgaggatggt 600

gagtgggtgga tagccaaaca acgagggaaa agggccatca cagacaatga 650

catgcagagt attttggacc ttcataataa attacgaagt cagggtgtatc 700

caacagcctc taatatggag tatatgacat gggatgtaga gctggaaaga 750

tctgcagaat cctgggctga aagttgcttg tgggaacatg gacctgcaag 800

cttgcttcca tcaattggac agaatttggg agcacactgg ggaagatata 850

ggcccccgac gtttcatgta caatcgtggt atgatgaagt gaaagacttt 900

agctacccat atgaacatga atgcaacca tattgtccat tcagggtgttc 950

tggccctgta tgtacacatt atacacaggt cgtgtgggca actagtaaca 1000

gaatcggttg tgccattaat ttgtgtcata acatgaacat ctgggggcag 1050

atatggccca aagctgtcta cctggtgtgc aattactccc caaagggaaa 1100

ctggtggggc catgcccctt acaaacatgg gcggccctgt tctgcttgcc 1150

cacctagttt	tggagggggc	tgtagagaaa	atctgtgcta	caaagaaggg	1200
tcagacaggt	attatcccc	tcgagaagag	gaaacaaatg	aaatagaacg	1250
acagcagtca	caagtccatg	acacccatgt	ccggacaaga	tcagatgata	1300
gtagcagaaa	tgaagtcata	agcgcacagc	aaatgtccca	aattgtttct	1350
tgtgaagtaa	gattaagaga	tcagtgcaaa	ggaacaacct	gcaataggta	1400
cgaatgtcct	gctggctggt	tggatagtaa	agctaaagtt	attggcagtg	1450
tacattatga	aatgcaatcc	agcatctgta	gagctgcaat	tcattatggt	1500
ataatagaca	atgatggtgg	ctgggtagat	atcactagac	aaggaagaaa	1550
gcattatttc	atcaagtcca	atagaaatgg	tattcaaaca	attggcaaat	1600
atcagttctgc	taattccttc	acagttctcta	aagtaacagt	tcaggctgtg	1650
acttgtgaaa	caactgtgga	acagttctgt	ccatttcata	agcctgcttc	1700
acattgcccc	agagtatact	gtcctcgtaa	ctgtatgcaa	gcaaatccac	1750
attatgctcg	tgtaatggga	actcgagttt	attctgatct	gtccagtatc	1800
tgcagagcag	cagtacatgc	tggagtggtt	cgaaatcacg	gtggttatgt	1850
tgatgtaatg	cctgtggaca	aaagaaagac	ctacattgct	tcttttcaga	1900
atggaatctt	ctcagaaaagt	ttacagaatc	ctccaggagg	aaaggcattc	1950
agagtgtttg	ctgttggtgtg	aaactgaata	cttggaagag	gaccataaag	2000
actattccaa	atgcaatatt	tctgaatttt	gtataaaaact	gtaacattac	2050
tgtacagagt	acatcaacta	ttttcagccc	aaaaaggtgc	caaatgcata	2100
taaatcttga	taaacaaagt	ctataaaaata	aaacatggga	cattagcttt	2150
gggaaaagta	atgaaaatat	aatggtttta	gaaatcctgt	gttaaataatt	2200
gctatatttt	cttagcagtt	atttctacag	ttaattacat	agtcattgatt	2250
gttctacgtt	tcatatatta	tatgggtgctt	tgtatatgcc	actaataaaa	2300
tgaatctaaa	cattgaatgt	gaatggccct	cagaaaatca	tctagtgcatt	2350
ttaaaaataa	tcgactctaa	aactgaaaga	aaccttatca	cattttcccc	2400
agttcaatgc	tatgccatta	ccaactccaa	ataatctcaa	ataattttcc	2450
acttaataac	tgtaaagttt	ttttctgtta	atttaggcat	atagaatatt	2500
aaattctgat	attgcacttc	ttattttata	taaaataatc	ctttaatatc	2550
caaatgaatc	tgttaaaaatg	tttgattcct	tgggaatggc	cttaaaaaata	2600

aatgtaataa agtcagagtg gtggtatgaa aacattccta gtgatcatgt 2650
 agtaaatgta gggttaagca tggacagcca gagctttcta tgtactgtta 2700
 aaattgaggt cacatat ttttctgtatc ctggcaaata ctctgcagg 2750
 ccaggaagta taatagcaaa aagttgaaca aagatgaact aatgtattac 2800
 attaccattg ccaactgattt tttttaaatg gtaaatagacc ttgtatataa 2850
 atattgccat atcatggtac ctataatggt gatataatttg tttctatgaa 2900
 aaatgtattg tgctttgata ctaaaaatct gtaaaatggt agttttggta 2950
 attttttttc tgctgggtgga tttacatatt aaattttttc tgctgggtgga 3000
 taaacattaa aattaatcat gtttcaaaaa aaaaaaaaa 3038

<210> 363

<211> 500

<212> PRT

<213> Homo sapiens

<400> 363

Met	Lys	Cys	Thr	Ala	Arg	Glu	Trp	Leu	Arg	Val	Thr	Thr	Val	Leu
1				5					10					15
Phe	Met	Ala	Arg	Ala	Ile	Pro	Ala	Met	Val	Val	Pro	Asn	Ala	Thr
				20					25					30
Leu	Leu	Glu	Lys	Leu	Leu	Glu	Lys	Tyr	Met	Asp	Glu	Asp	Gly	Glu
				35					40					45
Trp	Trp	Ile	Ala	Lys	Gln	Arg	Gly	Lys	Arg	Ala	Ile	Thr	Asp	Asn
				50					55					60
Asp	Met	Gln	Ser	Ile	Leu	Asp	Leu	His	Asn	Lys	Leu	Arg	Ser	Gln
				65					70					75
Val	Tyr	Pro	Thr	Ala	Ser	Asn	Met	Glu	Tyr	Met	Thr	Trp	Asp	Val
				80					85					90
Glu	Leu	Glu	Arg	Ser	Ala	Glu	Ser	Trp	Ala	Glu	Ser	Cys	Leu	Trp
				95					100					105
Glu	His	Gly	Pro	Ala	Ser	Leu	Leu	Pro	Ser	Ile	Gly	Gln	Asn	Leu
				110					115					120
Gly	Ala	His	Trp	Gly	Arg	Tyr	Arg	Pro	Pro	Thr	Phe	His	Val	Gln
				125					130					135
Ser	Trp	Tyr	Asp	Glu	Val	Lys	Asp	Phe	Ser	Tyr	Pro	Tyr	Glu	His
				140					145					150
Glu	Cys	Asn	Pro	Tyr	Cys	Pro	Phe	Arg	Cys	Ser	Gly	Pro	Val	Cys
				155					160					165
Thr	His	Tyr	Thr	Gln	Val	Val	Trp	Ala	Thr	Ser	Asn	Arg	Ile	Gly

Val	Asp	Lys	Arg	Lys	Thr	Tyr	Ile	Ala	Ser	Phe	Gln	Asn	Gly	Ile
				470					475					480
Phe	Ser	Glu	Ser	Leu	Gln	Asn	Pro	Pro	Gly	Gly	Lys	Ala	Phe	Arg
				485					490					495
Val	Phe	Ala	Val	Val										
				500										

<210> 364

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 364

ggacagaatt tgggagcaca ctgg 24

<210> 365

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 365

ccaagagtat actgtcctcg 20

<210> 366

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 366

agcacagatt ttctctacag ccccc 25

<210> 367

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 367

aaccactcca gcatgtactg ctgc 24

<210> 368

<211> 50

<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 368
ccattcaggt gttctggccc tgtatgtaca cattatacac aggtcgtgtg 50

<210> 369
<211> 1685
<212> DNA
<213> Homo sapiens

<400> 369
gcggagacaa gcgcagagcg cagcgcacgg ccacagacag ccctgggcat 50
ccaccgacgg cgcagccgga gccagcagag ccggaaggcg cgccccgggc 100
agagaaagcc gagcagagct ggggtggcgtc tccggggccg cgctccgacg 150
ggccagcgcc ctccccatgt cctgtctccc acgccgcgcc cctccggtca 200
gcatgaggct cctggcgggc gcgctgctcc tgctgctgct ggcgctgtac 250
accgcgcgtg tggacgggtc caaatgcaag tgctcccgga agggacccaa 300
gatccgctac agcgacgtga agaagctgga aatgaagcca aagtacccgc 350
actgcgagga gaagatggtt atcatcacca ccaagagcgt gtccaggtag 400
cgaggtcagg agcactgcct gcacccaag ctgcagagca ccaagcgctt 450
catcaagtgg tacaacgcct ggaacgagaa gcgcagggtc tacgaagaat 500
agggtgaaaa acctcagaag ggaaaactcc aaaccagttg ggagacttgt 550
gcaaaggact ttgcagatta aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 600
aaaaaaaaaa aaagcctttc tttctcacag gcataagaca caaattatat 650
attgttatga agcacttttt accaacggtc agtttttaca ttttatagct 700
gcgtgcgaaa ggcttccaga tgggagaccc atctctcttg tgctccagac 750
ttcatcacag gctgcttttt atcaaaaagg ggaaaactca tgcctttcct 800
ttttaaaaaa tgcttttttg tatttgtcca tacgtacta tacatctgag 850
ctttataagc gcccgggagg aacaatgagc ttggtggaca catttcattg 900
cagtgttgct ccattcctag cttgggaagc ttccgcttag aggtcctggc 950
gcctcggcac agctgccacg ggctctcctg ggcttatggc cggtcacagc 1000
ctcagtgtga ctccacagtg gccctgtag ccgggcaagc aggagcaggt 1050
ctctctgcat ctgttctctg aggaactcaa gtttggttgc cagaaaaatg 1100
tgcttcattc ccccctgggt aatttttaca caccctagga aacattttcca 1150

agatcctgtg atggcgagac aaatgatcct taaagaaggt gtgggggtctt 1200
 tcccaacctg aggatttctg aaaggttcac aggttcaata tttaatgctt 1250
 cagaagcatg tgagggttccc aacactgtca gcaaaaacct taggagaaaa 1300
 cttaaaaaata tatgaataca tgcgcaatac acagctacag acacacattc 1350
 tgttgacaag ggaaaacctt caaagcatgt ttctttccct caccacaaca 1400
 gaacatgcag tactaaagca atatatttgt gattcccat gtaattcttc 1450
 aatgttaaac agtgcagtcc tctttcgaaa gctaagatga ccatgcgccc 1500
 tttcctctgt acatataccc ttaagaacgc cccctccaca cactgcccc 1550
 cagtatatgc cgcattgtac tgctgtgtta tatgctatgt acatgtcaga 1600
 aaccattagc attgcatgca ggtttcatat tctttctaag atggaaagta 1650
 ataaaatata tttgaaatgt aaaaaaaaaa aaaaa 1685

<210> 370

<211> 111

<212> PRT

<213> Homo sapiens

<400> 370

Met	Ser	Leu	Leu	Pro	Arg	Arg	Ala	Pro	Pro	Val	Ser	Met	Arg	Leu	1	5	10	15
Leu	Ala	Ala	Ala	Leu	Leu	Leu	Leu	Leu	Leu	Ala	Leu	Tyr	Thr	Ala	20	25	30	
Arg	Val	Asp	Gly	Ser	Lys	Cys	Lys	Cys	Ser	Arg	Lys	Gly	Pro	Lys	35	40	45	
Ile	Arg	Tyr	Ser	Asp	Val	Lys	Lys	Leu	Glu	Met	Lys	Pro	Lys	Tyr	50	55	60	
Pro	His	Cys	Glu	Glu	Lys	Met	Val	Ile	Ile	Thr	Thr	Lys	Ser	Val	65	70	75	
Ser	Arg	Tyr	Arg	Gly	Gln	Glu	His	Cys	Leu	His	Pro	Lys	Leu	Gln	80	85	90	
Ser	Thr	Lys	Arg	Phe	Ile	Lys	Trp	Tyr	Asn	Ala	Trp	Asn	Glu	Lys	95	100	105	
Arg	Arg	Val	Tyr	Glu	Glu	110												

<210> 371

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 371

cagcgccctc cccatgtccc tg 22

<210> 372

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 372

tcccaactgg tttggagttt tccc 24

<210> 373

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 373

ctccggtcag catgaggctc ctggcggccg ctgctcctgc tgctg 45

<210> 374

<211> 3113

<212> DNA

<213> Homo sapiens

<400> 374

gccccaggga ctgctatggc ttcctttggt gttcaccccg gtctgcgtca 50
tgttaaactc caatgtcctc ctgtgggttaa ctgctcttgc catcaagttc 100
accctcattg acagccaagc acagtatcca gttgtcaaca caaattatgg 150
caaaatccgg ggcctaagaa caccgttacc caatgagatc ttgggtccag 200
tggagcagta cttaggggtc ccctatgcct cccccccac tggagagagg 250
cggtttcagc cccagaacc ccgctcctcc tggactggca tccgaaatac 300
tactcagttt gctgctgtgt gccccagca cctggatgag agatccttac 350
tgcatgacat gctgcccac tggtttaccg ccaatttgga tactttgatg 400
acctatgttc aagatcaaaa tgaagactgc ctttacttaa acatctacgt 450
gcccacggaa gatggagcca acacaaagaa aaacgcagat gatataacga 500
gtaatgaccg tggatgaagac gaagatatc atgatcagaa cagtaagaag 550
cccgatcatg tctatatcca tgggggatct tacatggagg gcaccggcaa 600
catgattgac ggcagcattt tggcaagcta cggaacgctc atcgtgatca 650

ccattaacta ccgctctggga atactagggt ttttaagtac cggtgaccag 700
gcagcaaaag gcaactatgg gctcctggat cagattcaag cactgcggtg 750
gattgaggag aatgtgggag cctttggcgg ggacccaag agagtgacca 800
tctttggctc gggggctggg gcctcctgtg tcagcctgtt gacctgtcc 850
cactactcag aaggtctctt ccagaaggcc atcattcaga gcggcaccgc 900
cctgtccagc tgggcagtga actaccagcc ggccaagtac actcggatat 950
tggcagacaa ggtcggctgc aacatgctgg acaccacgga catggtagaa 1000
tgctgcgga acaagaacta caaggagctc atccagcaga ccatcacccc 1050
ggccacctac cacatagcct tcgggcccgt gatcgacggc gacgtcatcc 1100
cagacgaccc ccagatcctg atggagcaag gcgagttcct caactacgac 1150
atcatgctgg gcgtcaacca aggggaaggc ctgaagttcg tggacggcat 1200
cgtggataac gaggacggtg tgacgccccaa cgactttgac ttctccgtgt 1250
ccaacttcgt ggacaacctt tacggctacc ctgaaggga agacactttg 1300
cgggagacta tcaagttcat gtacacagac tgggccgata aggaaaacc 1350
ggagacgcgg cggaaccacc tgggtggctct ctttactgac caccagtggg 1400
tggcccccgc cgtggccgcc gacctgcacg cgaggtacgg ctccccacc 1450
tacttctatg ctttctatca tcaactgcaa agcgaaatga agcccagctg 1500
ggcagattcg gcccatggtg atgaggtccc ctatgtcttc ggcatcccca 1550
tgatcggtcc caccgagctc ttcagttgta acttttccaa gaacgacgtc 1600
atgctcagcg ccgtgggtcat gacctactgg acgaacttcg ccaaaactgg 1650
tgatccaaat caaccagttc ctcaggatac caagttcatt cacacaaaac 1700
ccaaccgctt tgaagaagtg gcctgggtcca agtataatcc caaagaccag 1750
ctctatctgc atattggctt gaaaccagga gtgagagatc actaccgggc 1800
aacgaaagtg gctttctggt tggaactcgt tcctcatttg cacaacttga 1850
acgagatatt ccagtatggt tcaacaacca caaaggttcc tccaccagac 1900
atgacatcat ttccctatgg caccggcgga tctcccgcca agatatggcc 1950
aaccaccaaa cgcccagcaa tcaactcctgc caacaatccc aaacactcta 2000
aggaccctca caaacaggg cctgaggaca caactgtcct cattgaaacc 2050
aaacgagatt attccaccga attaagtgtc accattgccg tcggggcgctc 2100

gctcctcttc ctcaacatct tagcttttgc ggcgctgtac tacaaaaagg 2150
acaagaggcg ccatgagact cacaggcgcc ccagtcccca gagaaacacc 2200
acaaatgata tcgctcacat ccagaacgaa gagatcatgt ctctgcagat 2250
gaagcagctg gaacacgata acgagtgtga gtcgctgcag gcacacgaca 2300
cactgaggct cacctgcccc ccagactaca ccctcacgct gcgccgggtcg 2350
ccagatgaca tcccacttat gacgccaaac accatcacca tgattccaaa 2400
cacactgacg gggatgcagc ctttgcacac ttttaacacc ttcagtggag 2450
gacaaaacag tacaaattta cccacaggac attccaccac tagagtatag 2500
ctttgcccta tttcccttcc tatccctctg ccctacccgc tcagcaacat 2550
agaagaggga aggaaagaga gaaggaaaga gagagagaaa gaaagtctcc 2600
agaccaggaa tgtttttgtc ccactgactt aagacaaaaa tgcaaaaagg 2650
cagtcatccc atccccgcag acccttatcg ttggtgtttt ccagtattac 2700
aagatcaact tctgacctg tgaaatgtga gaagtacaca tttctgttaa 2750
aataactgct ttaagatctc taccactcca atcaatgttt agtgtgatag 2800
gacatcacca tttcaaggcc cggggtgttt ccaacgtcat ggaagcagct 2850
gacacttctg aaactcagcc aaggacactt gatatttttt aattacaatg 2900
gaagtttaaa catttctttc tgtgccacac aatggatggc tctccttaag 2950
tgaagaaaaga gtcaatgaga ttttgcccag cacatggagc tgtaatccag 3000
agagaaggaa acgtagaaat ttattattaa aagaatggac tgtgcagcga 3050
aatctgtacg gttctgtgca aagaggtgtt ttgccagcct gaactatatt 3100
taagagactt tgt 3113

<210> 375
<211> 816
<212> PRT
<213> Homo sapiens

<400> 375
Met Leu Asn Ser Asn Val Leu Leu Trp Leu Thr Ala Leu Ala Ile
1 5 10 15
Lys Phe Thr Leu Ile Asp Ser Gln Ala Gln Tyr Pro Val Val Asn
20 25 30
Thr Asn Tyr Gly Lys Ile Arg Gly Leu Arg Thr Pro Leu Pro Asn
35 40 45
Glu Ile Leu Gly Pro Val Glu Gln Tyr Leu Gly Val Pro Tyr Ala

50										55					60				
Ser	Pro	Pro	Thr	Gly	Glu	Arg	Arg	Phe	Gln	Pro	Pro	Glu	Pro	Pro					
				65					70					75					
Ser	Ser	Trp	Thr	Gly	Ile	Arg	Asn	Thr	Thr	Gln	Phe	Ala	Ala	Val					
				80					85					90					
Cys	Pro	Gln	His	Leu	Asp	Glu	Arg	Ser	Leu	Leu	His	Asp	Met	Leu					
				95					100					105					
Pro	Ile	Trp	Phe	Thr	Ala	Asn	Leu	Asp	Thr	Leu	Met	Thr	Tyr	Val					
				110					115					120					
Gln	Asp	Gln	Asn	Glu	Asp	Cys	Leu	Tyr	Leu	Asn	Ile	Tyr	Val	Pro					
				125					130					135					
Thr	Glu	Asp	Gly	Ala	Asn	Thr	Lys	Lys	Asn	Ala	Asp	Asp	Ile	Thr					
				140					145					150					
Ser	Asn	Asp	Arg	Gly	Glu	Asp	Glu	Asp	Ile	His	Asp	Gln	Asn	Ser					
				155					160					165					
Lys	Lys	Pro	Val	Met	Val	Tyr	Ile	His	Gly	Gly	Ser	Tyr	Met	Glu					
				170					175					180					
Gly	Thr	Gly	Asn	Met	Ile	Asp	Gly	Ser	Ile	Leu	Ala	Ser	Tyr	Gly					
				185					190					195					
Asn	Val	Ile	Val	Ile	Thr	Ile	Asn	Tyr	Arg	Leu	Gly	Ile	Leu	Gly					
				200					205					210					
Phe	Leu	Ser	Thr	Gly	Asp	Gln	Ala	Ala	Lys	Gly	Asn	Tyr	Gly	Leu					
				215					220					225					
Leu	Asp	Gln	Ile	Gln	Ala	Leu	Arg	Trp	Ile	Glu	Glu	Asn	Val	Gly					
				230					235					240					
Ala	Phe	Gly	Gly	Asp	Pro	Lys	Arg	Val	Thr	Ile	Phe	Gly	Ser	Gly					
				245					250					255					
Ala	Gly	Ala	Ser	Cys	Val	Ser	Leu	Leu	Thr	Leu	Ser	His	Tyr	Ser					
				260					265					270					
Glu	Gly	Leu	Phe	Gln	Lys	Ala	Ile	Ile	Gln	Ser	Gly	Thr	Ala	Leu					
				275					280					285					
Ser	Ser	Trp	Ala	Val	Asn	Tyr	Gln	Pro	Ala	Lys	Tyr	Thr	Arg	Ile					
				290					295					300					
Leu	Ala	Asp	Lys	Val	Gly	Cys	Asn	Met	Leu	Asp	Thr	Thr	Asp	Met					
				305					310					315					
Val	Glu	Cys	Leu	Arg	Asn	Lys	Asn	Tyr	Lys	Glu	Leu	Ile	Gln	Gln					
				320					325					330					
Thr	Ile	Thr	Pro	Ala	Thr	Tyr	His	Ile	Ala	Phe	Gly	Pro	Val	Ile					
				335					340					345					

Asp Gly Asp Val	Ile Pro Asp Asp Pro	Gln Ile Leu Met Glu Gln	350	355	360
Gly Glu Phe Leu	Asn Tyr Asp Ile Met	Leu Gly Val Asn Gln Gly	365	370	375
Glu Gly Leu Lys	Phe Val Asp Gly Ile	Val Asp Asn Glu Asp Gly	380	385	390
Val Thr Pro Asn	Asp Phe Asp Phe Ser	Val Ser Asn Phe Val Asp	395	400	405
Asn Leu Tyr Gly	Tyr Pro Glu Gly Lys	Asp Thr Leu Arg Glu Thr	410	415	420
Ile Lys Phe Met	Tyr Thr Asp Trp Ala	Asp Lys Glu Asn Pro Glu	425	430	435
Thr Arg Arg Lys	Thr Leu Val Ala Leu	Phe Thr Asp His Gln Trp	440	445	450
Val Ala Pro Ala	Val Ala Ala Asp Leu	His Ala Gln Tyr Gly Ser	455	460	465
Pro Thr Tyr Phe	Tyr Ala Phe Tyr His	His Cys Gln Ser Glu Met	470	475	480
Lys Pro Ser Trp	Ala Asp Ser Ala His	Gly Asp Glu Val Pro Tyr	485	490	495
Val Phe Gly Ile	Pro Met Ile Gly Pro	Thr Glu Leu Phe Ser Cys	500	505	510
Asn Phe Ser Lys	Asn Asp Val Met Leu	Ser Ala Val Val Met Thr	515	520	525
Tyr Trp Thr Asn	Phe Ala Lys Thr Gly	Asp Pro Asn Gln Pro Val	530	535	540
Pro Gln Asp Thr	Lys Phe Ile His Thr	Lys Pro Asn Arg Phe Glu	545	550	555
Glu Val Ala Trp	Ser Lys Tyr Asn Pro	Lys Asp Gln Leu Tyr Leu	560	565	570
His Ile Gly Leu	Lys Pro Arg Val Arg	Asp His Tyr Arg Ala Thr	575	580	585
Lys Val Ala Phe	Trp Leu Glu Leu Val	Pro His Leu His Asn Leu	590	595	600
Asn Glu Ile Phe	Gln Tyr Val Ser Thr	Thr Thr Lys Val Pro Pro	605	610	615
Pro Asp Met Thr	Ser Phe Pro Tyr Gly	Thr Arg Arg Ser Pro Ala	620	625	630
Lys Ile Trp Pro	Thr Thr Lys Arg Pro	Ala Ile Thr Pro Ala Asn			

635					640					645				
Asn	Pro	Lys	His	Ser	Lys	Asp	Pro	His	Lys	Thr	Gly	Pro	Glu	Asp
				650					655					660
Thr	Thr	Val	Leu	Ile	Glu	Thr	Lys	Arg	Asp	Tyr	Ser	Thr	Glu	Leu
				665					670					675
Ser	Val	Thr	Ile	Ala	Val	Gly	Ala	Ser	Leu	Leu	Phe	Leu	Asn	Ile
				680					685					690
Leu	Ala	Phe	Ala	Ala	Leu	Tyr	Tyr	Lys	Lys	Asp	Lys	Arg	Arg	His
				695					700					705
Glu	Thr	His	Arg	Arg	Pro	Ser	Pro	Gln	Arg	Asn	Thr	Thr	Asn	Asp
				710					715					720
Ile	Ala	His	Ile	Gln	Asn	Glu	Glu	Ile	Met	Ser	Leu	Gln	Met	Lys
				725					730					735
Gln	Leu	Glu	His	Asp	His	Glu	Cys	Glu	Ser	Leu	Gln	Ala	His	Asp
				740					745					750
Thr	Leu	Arg	Leu	Thr	Cys	Pro	Pro	Asp	Tyr	Thr	Leu	Thr	Leu	Arg
				755					760					765
Arg	Ser	Pro	Asp	Asp	Ile	Pro	Leu	Met	Thr	Pro	Asn	Thr	Ile	Thr
				770					775					780
Met	Ile	Pro	Asn	Thr	Leu	Thr	Gly	Met	Gln	Pro	Leu	His	Thr	Phe
				785					790					795
Asn	Thr	Phe	Ser	Gly	Gly	Gln	Asn	Ser	Thr	Asn	Leu	Pro	His	Gly
				800					805					810
His	Ser	Thr	Thr	Arg	Val									
				815										

<210> 376

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 376

ggcaagctac ggaaacgtca tcgtg 25

<210> 377

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 377

aacccccgag ccaaaagatg gtcac 25

<210> 378

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 378

gtaccggtga ccaggcagca aaaggcaact atgggctcct ggatcag 47

<210> 379

<211> 2461

<212> DNA

<213> Homo sapiens

<400> 379

gggaaagatg gcggcgactc tgggaccct tgggtcgtgg cagcagtggc 50
ggcgatgttt gtcggctcgg gatgggtcca ggatgttact cttcttctt 100
ttgttggggc ctgggcaggg gccacagcaa gtcggggcgg gtcaaacgtt 150
cgagtacttg aaacgggagc actcgtctgc gaagccctac cagggtgtgg 200
gcacaggcag ttctcactg tggaatctga tgggcaatgc catggtgatg 250
accagttata tccgccttac ccagatatg caaagtaaac aggggtgcctt 300
gtggaaccgg gtgccatgtt tctgagaga ctgggagttg cagggtgcact 350
tcaaaatcca tggacaagga aagaagaatc tgcattggga tggcttggca 400
atctggtaca caaaggatcg gatgcagcca gggcctgtgt ttggaacat 450
ggacaaattt gtggggctgg gagtatttgc agacacctac cccaatgagg 500
agaagcagca agagcgggta ttccctaca tctcagccat ggtgaacaac 550
ggctccctca gctatgatca tgagcgggat gggcggccta cagagctggg 600
aggctgcaca gccattgtcc gcaatcttca ttacgacacc ttctggtga 650
ttcgctacgt caagaggcat ttgacgataa tgatggatat tgatggcaag 700
catgagtgga gggactgcat tgaagtgccg ggagtccgcc tgccccgcgg 750
ctactacttc ggcacctcct ccatcactgg ggatctctca gataatcatg 800
atgtcatttc cttgaagttg tttgaactga cagtggagag aaccccagaa 850
gaggaaaagc tccatcgaga tgtgttcttg ccctcagtgg acaatatgaa 900
gctgcctgag atgacagctc cactgccgcc cctgagtggc ctggccctct 950
tcctcatcgt cttttctcc ctggtgtttt ctgtatttgc catagtcatt 1000

ggtatcatac tctacaacaa atggcaggaa cagagccgaa agcgcttcta 1050
 ctgagccctc ctgctgccac cacttttgtg actgtcacc c atgaggtatg 1100
 gaaggagcag gcactggcct gagcatgcag cctggagagt gttcttgtct 1150
 ctagcagctg gttggggact atattctgtc actggagttt tgaatgcagg 1200
 gaccccgcat tcccatgggt gtgcatgggg acatctaact ctggtctggg 1250
 aagccacca cccagggca atgctgctgt gatgtgcctt tccctgcagt 1300
 cttccatgt gggagcagag gtgtgaagag aatttacgtg gttgtgatgc 1350
 caaaatcaca gaacagaatt tcatagcca ggctgccgtg ttgtttgact 1400
 cagaaggccc ttctacttca gttttgaatc cacaagaat taaaaactgg 1450
 taacaccaca ggctttctga ccatocatto gttgggtttt gcatttgacc 1500
 caaccctctg cctacctgag gagctttctt tggaaaccag gatggaaact 1550
 tcttcctgc cttaccttc tttcaactca ttcattgtcc tctctgtgtg 1600
 caacctgagc tgggaaaggc atttggatgc ctctctgttg gggcctgggg 1650
 ctgcagaaca cacctgcgtt tcaactggcct tcattaggtg gccctagggg 1700
 gatggcttct tgctttggat cactgttccc tagcatgggt cttgggtcta 1750
 ttggcatgtc catggccttc ccaatcaagt ctcttcaggc cctcagtga 1800
 gtttggtcta aggttggtgt aaaaatcaag agaagcctgg aagacatcat 1850
 ggatgccatg gattagctgt gcaactgacc agctccagg tttgatcaa 1900
 caaaagcaac atttgtcatg tggctctgacc atgtggagat gtttctggac 1950
 ttgctagagc ctgcttagct gcatgttttg tagttacgat ttttggaa 2000
 ccactttgag tgctgaaagt gtaaggaagc tttcttctta caccttgggc 2050
 ttggatattg ccagagaag aaatttggt ttttttttct taatggaca 2100
 gagacagttg ctgttctcat gttccaagtc tgagagcaac agaccctcat 2150
 catctgtgcc tggaagagtt cactgtcatt gagcagcaca gcctgagtgc 2200
 tggcctctgt caacccttat tccactgcct tatttgaca ggggttacat 2250
 gctgctcacc ttactgccct gggattaaat cagttacagg ccagagtctc 2300
 cttggagggc ctggaactct gagtctctct atgaacctct gtagcctaaa 2350
 tgaaattctt aaaatcaccg atggaaccaa aaaaaaaaaa aaaaaggcgc 2400
 gccgcgactc tagagtgcac ctgcagtagg gataacagg taataagctt 2450

ggccgccatg g 2461

<210> 380

<211> 348

<212> PRT

<213> Homo sapiens

<400> 380

Met Ala Ala Thr Leu Gly Pro Leu Gly Ser Trp Gln Gln Trp Arg
1 5 10 15

Arg Cys Leu Ser Ala Arg Asp Gly Ser Arg Met Leu Leu Leu Leu
20 25 30

Leu Leu Leu Gly Ser Gly Gln Gly Pro Gln Gln Val Gly Ala Gly
35 40 45

Gln Thr Phe Glu Tyr Leu Lys Arg Glu His Ser Leu Ser Lys Pro
50 55 60

Tyr Gln Gly Val Gly Thr Gly Ser Ser Ser Leu Trp Asn Leu Met
65 70 75

Gly Asn Ala Met Val Met Thr Gln Tyr Ile Arg Leu Thr Pro Asp
80 85 90

Met Gln Ser Lys Gln Gly Ala Leu Trp Asn Arg Val Pro Cys Phe
95 100 105

Leu Arg Asp Trp Glu Leu Gln Val His Phe Lys Ile His Gly Gln
110 115 120

Gly Lys Lys Asn Leu His Gly Asp Gly Leu Ala Ile Trp Tyr Thr
125 130 135

Lys Asp Arg Met Gln Pro Gly Pro Val Phe Gly Asn Met Asp Lys
140 145 150

Phe Val Gly Leu Gly Val Phe Val Asp Thr Tyr Pro Asn Glu Glu
155 160 165

Lys Gln Gln Glu Arg Val Phe Pro Tyr Ile Ser Ala Met Val Asn
170 175 180

Asn Gly Ser Leu Ser Tyr Asp His Glu Arg Asp Gly Arg Pro Thr
185 190 195

Glu Leu Gly Gly Cys Thr Ala Ile Val Arg Asn Leu His Tyr Asp
200 205 210

Thr Phe Leu Val Ile Arg Tyr Val Lys Arg His Leu Thr Ile Met
215 220 225

Met Asp Ile Asp Gly Lys His Glu Trp Arg Asp Cys Ile Glu Val
230 235 240

Pro Gly Val Arg Leu Pro Arg Gly Tyr Tyr Phe Gly Thr Ser Ser
245 250 255

Ile Thr Gly Asp	Leu Ser Asp Asn His	Asp Val Ile Ser Leu Lys
260	265	270
Leu Phe Glu Leu	Thr Val Glu Arg Thr	Pro Glu Glu Glu Lys Leu
275	280	285
His Arg Asp Val	Phe Leu Pro Ser Val	Asp Asn Met Lys Leu Pro
290	295	300
Glu Met Thr Ala	Pro Leu Pro Pro Leu	Ser Gly Leu Ala Leu Phe
305	310	315
Leu Ile Val Phe	Phe Ser Leu Val Phe	Ser Val Phe Ala Ile Val
320	325	330
Ile Gly Ile Ile	Leu Tyr Asn Lys Trp	Gln Glu Gln Ser Arg Lys
335	340	345

Arg Phe Tyr

<210> 381

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 381

ccttggtcg tggcagcagt gg 22

<210> 382

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 382

cactctccag gctgcatgct cagg 24

<210> 383

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 383

gtcaaacgtt cgagtacttg aaacgggagc actcgtgtc gaagc 45

<210> 384

<211> 3150

<212> DNA

<213> Homo sapiens

<400> 384

```

ccgagccggg cgcgcagcga cggagctggg gccggcctgg gaccatgggc 50
gtgagtgcaa tctacggatc agtctctgat ggtgggtcgt taacctcagt 100
ggggactcca agatttccat gaagaaaatc agttgtcttc attcaagaat 150
tggggtcttg ctcagaattc ctgcagctgg tgaaaatctg ttttctagaa 200
gaggtttaat taatgcctgc agtctgacat gttcccgatt tgaggtgaaa 250
ccatgaagag aaaatagaat acttaataat gcttttccgc aaccgcttct 300
tgctgtgctt ggccctgggt gcgctgctgg cctttgtgag cctcagcctg 350
cagttcttcc acctgatccc ggtgtcgact cctaagaatg gaatgagtag 400
caagagtcga aagagaatca tgcccgaccc tgtgacggag cccctgtga 450
cagaccccgt ttatgaagct cttttgtact gcaacatccc cagtgtggcc 500
gagcgcagca tggaaggcca tgcccgcat cattttaagc tggctctcagt 550
gcatgtgttc attcgccacg gagacaggta cccactgtat gtcattccca 600
aaacaaagcg accagaaatt gactgcactc tgggtggctaa caggaaaccg 650
tatcacccaa aactggaagc tttcattagt cacatgtcaa aaggatccgg 700
agcctctttc gaaagccctt tgaactcctt gcctctttac ccaaatacacc 750
cattgtgtga gatgggagag ctcacacaga caggagtgtg gcagcatttg 800
cagaacggtc agctgctgag ggatatctat ctaaagaaac acaaactcct 850
gcccaatgat tggctctgag accagctcta tttagagacc actgggaaaa 900
gccggaccct acaaagtggg ctggccttgc tttatggctt tctcccagat 950
tttgactgga agaagattta tttcaggcac cagccaagtg cgctgttctg 1000
ctctggaagc tgctattgcc cggtaagaaa ccagtatctg gaaaaggagc 1050
agcgtcgtca gtacctccta cgtttgaaaa acagccagct ggagaagacc 1100
tacggggaga tggccaagat cgtggatgtc cccaccaagc agcttagagc 1150
tgccaacccc atagactcca tgctctgcca cttctgccac aatgtcagct 1200
ttccctgtac cagaaatggc tgtgttgaca tggagcactt caaggtaatt 1250
aagaccatc agatcgagga tgaaagggaa agacgggaga agaaattgta 1300
cttcgggtat tctctcctgg gtgccacccc catcctgaac caaaccatcg 1350
gccggatgca gcgtgccacc gagggcagga aagaagagct ctttgccctc 1400
tactctgctc atgatgtcac tctgtcacca gttctcagt ccttgggcct 1450

```

ttcagaagcc aggttcccaa ggtttgcagc caggttgatc tttgagcttt 1500
 ggcaagacag agaaaagccc agtgaacatt ccgtccggat tctttacaat 1550
 ggcgtcgatg tcacattcca cacctctttc tgccaagacc accacaagcg 1600
 ttctcccaag cccatgtgcc cgcttgaaaa cttggtccgc tttgtgaaaa 1650
 gggacatggt tgtagccctg ggtggcagtg gtacaaatta ttatgatgca 1700
 tgtcacaggg aaggattcta aaaggatatgc agtacagcag tatagaatcc 1750
 atgccaatac agagcatagg gaaagggtcca cttctagttt tgtctgttac 1800
 taagggtaga agattattgc tttttaagg ctaaattattg tttgtgggaa 1850
 ccacagatgg ttgggggtga acagtaagca cattgctgca atgtggtacg 1900
 tgaattgctt ggtacaaaat ggccagttca cagaggaata gaaggactt 1950
 tatcatagcc agacttcgct tagaatgcca gaataatata gttcaagacc 2000
 tgaagttgcc aatccaagtt tgcaactctc tggcctgccc catgttacta 2050
 tgtgatggaa ccagcacacc tcaacaaaaa tttttttaat cttagacatt 2100
 tttacctgt ccttgtttaag aatttcttga agtgatttat ctaaaataaa 2150
 ggttggcaaa ctttttctgt aaagggccag attgtaaata tttcagactg 2200
 tgtggacca aaggccacat acagtctctg tcataactac tcaactctgt 2250
 ttctgaagca ggaaagccac cacagacagt acataaagga atatgtgtag 2300
 ctgggttccc aggccagaca aaacagatgg tgaccagact tggcccctgg 2350
 gctgtagttt gctgaccct catctaaaaa ataggctata ctacaattgc 2400
 acttccagca ctttgagaac gagttgaata ccaagaatta ttcaatggtt 2450
 cctccagtaa cttctgctag aaacacagaa tttggtctgt atctgacact 2500
 agaacaaaac ttgagggtaa ataaacattg aattagaatg aatcatagaa 2550
 aactgattag aagaatactt gatgtttatg atgattgtgg tacaagatag 2600
 ttttaagtat gttctaaata tttgtctgct gtagtctatt tgctgtatat 2650
 gctgaaatth ttgtatgcca tttagtattt ttatagttht ggaaaatatt 2700
 ttctaagacc agtttttagat gactcttatt cctgtagtaa tattcaattt 2750
 gctgtacctg cttggtggtt agaaggaggc tagaagatga attcaggcac 2800
 tttcttccaa taaaactaat tatggctcat tccctttgac aagctgtaga 2850
 actggattca tttttaaac attttcatca gtttcaaattg gtaaattctg 2900

attgattttt aaatgcgttt ttggaagaac ttgctatta ggtagtttac 2950
 agatctttat aagggtgtttt atatattaga agcaattata attacatctg 3000
 tgatttctga actaatgggtg ctaattcaga gaaatggaaa gtgaaagtga 3050
 gattctctgt tgtcatcggc attccaactt tttctctttg tttttgtcca 3100
 gtgttgcatt tgaatatgtc tgtttctata aataaatttt ttaagaataa 3150

<210> 385

<211> 480

<212> PRT

<213> Homo sapiens

<400> 385

Met	Leu	Phe	Arg	Asn	Arg	Phe	Leu	Leu	Leu	Leu	Ala	Leu	Ala	Ala	1	5	10	15
Leu	Leu	Ala	Phe	Val	Ser	Leu	Ser	Leu	Gln	Phe	Phe	His	Leu	Ile	20	25	30	
Pro	Val	Ser	Thr	Pro	Lys	Asn	Gly	Met	Ser	Ser	Lys	Ser	Arg	Lys	35	40	45	
Arg	Ile	Met	Pro	Asp	Pro	Val	Thr	Glu	Pro	Pro	Val	Thr	Asp	Pro	50	55	60	
Val	Tyr	Glu	Ala	Leu	Leu	Tyr	Cys	Asn	Ile	Pro	Ser	Val	Ala	Glu	65	70	75	
Arg	Ser	Met	Glu	Gly	His	Ala	Pro	His	His	Phe	Lys	Leu	Val	Ser	80	85	90	
Val	His	Val	Phe	Ile	Arg	His	Gly	Asp	Arg	Tyr	Pro	Leu	Tyr	Val	95	100	105	
Ile	Pro	Lys	Thr	Lys	Arg	Pro	Glu	Ile	Asp	Cys	Thr	Leu	Val	Ala	110	115	120	
Asn	Arg	Lys	Pro	Tyr	His	Pro	Lys	Leu	Glu	Ala	Phe	Ile	Ser	His	125	130	135	
Met	Ser	Lys	Gly	Ser	Gly	Ala	Ser	Phe	Glu	Ser	Pro	Leu	Asn	Ser	140	145	150	
Leu	Pro	Leu	Tyr	Pro	Asn	His	Pro	Leu	Cys	Glu	Met	Gly	Glu	Leu	155	160	165	
Thr	Gln	Thr	Gly	Val	Val	Gln	His	Leu	Gln	Asn	Gly	Gln	Leu	Leu	170	175	180	
Arg	Asp	Ile	Tyr	Leu	Lys	Lys	His	Lys	Leu	Leu	Pro	Asn	Asp	Trp	185	190	195	
Ser	Ala	Asp	Gln	Leu	Tyr	Leu	Glu	Thr	Thr	Gly	Lys	Ser	Arg	Thr	200	205	210	

Leu	Gln	Ser	Gly	Leu	Ala	Leu	Leu	Tyr	Gly	Phe	Leu	Pro	Asp	Phe
				215					220					225
Asp	Trp	Lys	Lys	Ile	Tyr	Phe	Arg	His	Gln	Pro	Ser	Ala	Leu	Phe
				230					235					240
Cys	Ser	Gly	Ser	Cys	Tyr	Cys	Pro	Val	Arg	Asn	Gln	Tyr	Leu	Glu
				245					250					255
Lys	Glu	Gln	Arg	Arg	Gln	Tyr	Leu	Leu	Arg	Leu	Lys	Asn	Ser	Gln
				260					265					270
Leu	Glu	Lys	Thr	Tyr	Gly	Glu	Met	Ala	Lys	Ile	Val	Asp	Val	Pro
				275					280					285
Thr	Lys	Gln	Leu	Arg	Ala	Ala	Asn	Pro	Ile	Asp	Ser	Met	Leu	Cys
				290					295					300
His	Phe	Cys	His	Asn	Val	Ser	Phe	Pro	Cys	Thr	Arg	Asn	Gly	Cys
				305					310					315
Val	Asp	Met	Glu	His	Phe	Lys	Val	Ile	Lys	Thr	His	Gln	Ile	Glu
				320					325					330
Asp	Glu	Arg	Glu	Arg	Arg	Glu	Lys	Lys	Leu	Tyr	Phe	Gly	Tyr	Ser
				335					340					345
Leu	Leu	Gly	Ala	His	Pro	Ile	Leu	Asn	Gln	Thr	Ile	Gly	Arg	Met
				350					355					360
Gln	Arg	Ala	Thr	Glu	Gly	Arg	Lys	Glu	Glu	Leu	Phe	Ala	Leu	Tyr
				365					370					375
Ser	Ala	His	Asp	Val	Thr	Leu	Ser	Pro	Val	Leu	Ser	Ala	Leu	Gly
				380					385					390
Leu	Ser	Glu	Ala	Arg	Phe	Pro	Arg	Phe	Ala	Ala	Arg	Leu	Ile	Phe
				395					400					405
Glu	Leu	Trp	Gln	Asp	Arg	Glu	Lys	Pro	Ser	Glu	His	Ser	Val	Arg
				410					415					420
Ile	Leu	Tyr	Asn	Gly	Val	Asp	Val	Thr	Phe	His	Thr	Ser	Phe	Cys
				425					430					435
Gln	Asp	His	His	Lys	Arg	Ser	Pro	Lys	Pro	Met	Cys	Pro	Leu	Glu
				440					445					450
Asn	Leu	Val	Arg	Phe	Val	Lys	Arg	Asp	Met	Phe	Val	Ala	Leu	Gly
				455					460					465
Gly	Ser	Gly	Thr	Asn	Tyr	Tyr	Asp	Ala	Cys	His	Arg	Glu	Gly	Phe
				470					475					480

<210> 386

<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 386
ccaagcagct tagagctcca gacc 24

<210> 387
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 387
ttccctatgc tctgtattgg catgg 25

<210> 388
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 388
gccacttctg ccacaatgtc agctttccct gtaccagaaa tggctgtgtt 50

<210> 389
<211> 3313
<212> DNA
<213> Homo sapiens

<400> 389
aaaaaagctc actaaagttt ctattagagc gaatacggta gatttccatc 50
cccttttgaa gaacagtact gtggagctat ttaagagata aaaacgaaat 100
atccttttctg ggagttcaag attgtgcagt aattgggttag gactctgagc 150
gccgctgttc accaatcggg gagagaaaag cggagatcct gctcgccttg 200
cacgcgcctg aagcaciaaag cagatagcta ggaatgaacc atccctggga 250
gtatgtggaa acaacggagg agctctgact tcccaactgt cccattctat 300
gggcgaagga actgctcctg acttcagtgg ttaagggcag aattgaaaat 350
aattctggag gaagataaga atgattcctg cgcgactgca ccgggactac 400
aaagggcttg tctgctggg aatcctcctg gggactctgt gggagaccgg 450
atgcacccag atacgctatt cagttccgga agagctggag aaaggctcta 500
gggtgggcga catctccagg gacctggggc tggagccccg ggagctcgcg 550
gagcgcggag tccgcatcat ccccagaggt aggacgcagc ttttcgccct 600

gaatccgcgc agcggcagct tggtcacggc gggcaggata gaccgggagg 650
 agctctgtat gggggccatc aagtgtcaat taaatctaga cattctgatg 700
 gaggataaaag tgaaaatata tggagtagaa gtagaagtaa gggacattaa 750
 cgacaatgcg ccttactttc gtgaaagtga attagaaata aaaattagtg 800
 aaaatgcagc cactgagatg cggttccctc taccacacgc ctgggatccg 850
 gatatcgggg agaactctct gcagagctac gagctcagcc cgaacactca 900
 cttctccctc atcgtgcaaa atggagccga cggtagtaag taccgccaat 950
 tgggtgtgaa acgcgccctg gaccgcgaag aaaaggctgc tcaccacctg 1000
 gtcccttacg cctccgacgg gggcgacccg gtgcgcacag gcaccgcgcg 1050
 catccgcgtg atggttcttg atgcgaacga caacgcacca gcgtttgctc 1100
 agcccagata ccgcgcgagc gttccggaga atctggcctt gggcacgcag 1150
 ctgctttagt tcaacgctac cgaccctgac gaaggagtca atgcggaagt 1200
 gaggtattcc ttccggtatg tggacgacaa ggcggcccaa gttttcaaac 1250
 tagattgtaa ttcagggaca atatcaacaa taggggagtt ggaccacgag 1300
 gagtcaggat tctaccagat ggaagtgcaa gcaatggata atgcaggata 1350
 ttctgcgcga gccaaagtcc tgatcactgt tctggacgtg aacgacaatg 1400
 cccagaaagt ggtcctcacc tctctcgcca gctcggttcc cgaaaactct 1450
 cccagagggg cattaattgc ccttttaa atgtaatgacc aagattctga 1500
 ggaaaacgga caggtgatct gtttcatcca aggaaatctg ccctttaaat 1550
 tagaaaaatc ttacggaaat tactatagtt tagtcacaga catagtcttg 1600
 gataggggaa aggttcctag ctacaacatc acagtgaccg ccactgaccg 1650
 gggaaccccg cccctatcca cggaaactca tatctcgctg aacgtggcag 1700
 acaccaacga caaccgcgcg gtcttccctc aggctccta ttccgcttat 1750
 atcccagaga acaatcccag aggagtttcc ctctctcttg tgaccgcca 1800
 cgaccccgac tgtgaagaga acgcccagat cacttattcc ctggctgaga 1850
 acaccatcca aggggcaagc ctatcgtcct acgtgtccat caactccgac 1900
 actggggtac tgtatgcgct gagctccttc gactacgagc agttccgaga 1950
 cttgcaagtg aaagtgatgg cgcgggacaa cgggcacccg cccctcagca 2000
 gcaacgtgtc gttgagcctg ttcgtgctgg accagaacga caatgcgccc 2050

gagatcctgt accccgccct cccacaggac ggttccactg gcgtggagct 2100
ggctccccgc tccgcagagc ccggctacct ggtgaccaag gtggtggcgg 2150
tggacagaga ctccggccag aacgcctggc tgtcctaccg tctgctcaag 2200
gccagcgagc cgggactctt ctcggtgggt ctgcacacgg gcgaggtgcg 2250
cacggcgcga gccctgctgg acagagacgc gctcaagcag agcctcgtag 2300
tggccgtcca ggaccacggc cagccccctc tctccgccac tgtcacgctc 2350
accgtggccg tggccgacag catcccccaa gtcttggcgg acctcggcag 2400
cctcgagtct ccagctaaact ctgaaacctc agacctcact ctgtacctgg 2450
tggtagcggg ggccgcgggc tcttgcgtct tcttggcctt cgtcatcttg 2500
ctgctggcgc tcaggctgcg gcgctggcac aagtcacgcc tgctgcaggc 2550
ttcaggaggc ggcttgacag gagcgccggc gtcgcacttt gtgggcgtgg 2600
acggggtgca ggctttcctg cagacctatt cccacgaggt ttccctcacc 2650
acggactcgc ggaagagtca cctgatcttc cccagccca actatgcaga 2700
catgctcgtc agccaggaga gctttgaaaa aagcgagccc cttttgctgt 2750
caggtgattc ggtattttct aaagacagtc atgggttaat tgaggtagt 2800
ttatatcaaa tcttctttct tttttttttt aattgctctg tctccaagc 2850
tggagtgcag cggtacgata atagctcact gcggcctcaa actcctaggc 2900
tcaagcaatt atcccacctt tgctccgggt gtaacaggga ctacaggtagc 2950
aagccacctc ctgtctgcct atctatctat ctatctatct atctatctat 3000
ctatctatct atctatctat tactttcttg tacagacggg agtctcacgc 3050
ctgtaatccc agtaactttg gaggcgagg cggttgatc acctgaggtt 3100
gggagtttga gaccagcctg accaaccatg agaaaccccg tctatactaa 3150
aaaaatacaa aattagccgg gcgtgggtgt gcatgtctgt aatcccagct 3200
acttgggagg ctgagtcagg agaattgctt taacctggga ggtggaggtt 3250
gcaatgagct gagattgtgc cattgcactc cagcctgggc aacaagagt 3300
aaactctatc tca 3313

<210> 390
<211> 916
<212> PRT
<213> Homo sapiens
<400> 390

Met	Ile	Pro	Ala	Arg	Leu	His	Arg	Asp	Tyr	Lys	Gly	Leu	Val	Leu	1	5	10	15
Leu	Gly	Ile	Leu	Leu	Gly	Thr	Leu	Trp	Glu	Thr	Gly	Cys	Thr	Gln	20	25	30	
Ile	Arg	Tyr	Ser	Val	Pro	Glu	Glu	Leu	Glu	Lys	Gly	Ser	Arg	Val	35	40	45	
Gly	Asp	Ile	Ser	Arg	Asp	Leu	Gly	Leu	Glu	Pro	Arg	Glu	Leu	Ala	50	55	60	
Glu	Arg	Gly	Val	Arg	Ile	Ile	Pro	Arg	Gly	Arg	Thr	Gln	Leu	Phe	65	70	75	
Ala	Leu	Asn	Pro	Arg	Ser	Gly	Ser	Leu	Val	Thr	Ala	Gly	Arg	Ile	80	85	90	
Asp	Arg	Glu	Glu	Leu	Cys	Met	Gly	Ala	Ile	Lys	Cys	Gln	Leu	Asn	95	100	105	
Leu	Asp	Ile	Leu	Met	Glu	Asp	Lys	Val	Lys	Ile	Tyr	Gly	Val	Glu	110	115	120	
Val	Glu	Val	Arg	Asp	Ile	Asn	Asp	Asn	Ala	Pro	Tyr	Phe	Arg	Glu	125	130	135	
Ser	Glu	Leu	Glu	Ile	Lys	Ile	Ser	Glu	Asn	Ala	Ala	Thr	Glu	Met	140	145	150	
Arg	Phe	Pro	Leu	Pro	His	Ala	Trp	Asp	Pro	Asp	Ile	Gly	Lys	Asn	155	160	165	
Ser	Leu	Gln	Ser	Tyr	Glu	Leu	Ser	Pro	Asn	Thr	His	Phe	Ser	Leu	170	175	180	
Ile	Val	Gln	Asn	Gly	Ala	Asp	Gly	Ser	Lys	Tyr	Pro	Glu	Leu	Val	185	190	195	
Leu	Lys	Arg	Ala	Leu	Asp	Arg	Glu	Glu	Lys	Ala	Ala	His	His	Leu	200	205	210	
Val	Leu	Thr	Ala	Ser	Asp	Gly	Gly	Asp	Pro	Val	Arg	Thr	Gly	Thr	215	220	225	
Ala	Arg	Ile	Arg	Val	Met	Val	Leu	Asp	Ala	Asn	Asp	Asn	Ala	Pro	230	235	240	
Ala	Phe	Ala	Gln	Pro	Glu	Tyr	Arg	Ala	Ser	Val	Pro	Glu	Asn	Leu	245	250	255	
Ala	Leu	Gly	Thr	Gln	Leu	Leu	Val	Val	Asn	Ala	Thr	Asp	Pro	Asp	260	265	270	
Glu	Gly	Val	Asn	Ala	Glu	Val	Arg	Tyr	Ser	Phe	Arg	Tyr	Val	Asp	275	280	285	
Asp	Lys	Ala	Ala	Gln	Val	Phe	Lys	Leu	Asp	Cys	Asn	Ser	Gly	Thr				

	290		295		300
Ile Ser Thr Ile	Gly 305	Glu Leu Asp His	Glu 310	Glu Ser Gly Phe	Tyr 315
Gln Met Glu Val	Gln 320	Ala Met Asp Asn	Ala 325	Gly Tyr Ser Ala	Arg 330
Ala Lys Val Leu	Ile 335	Thr Val Leu Asp	Val 340	Asn Asp Asn Ala	Pro 345
Glu Val Val Leu	Thr 350	Ser Leu Ala Ser	Ser 355	Val Pro Glu Asn	Ser 360
Pro Arg Gly Thr	Leu 365	Ile Ala Leu Leu	Asn 370	Val Asn Asp Gln	Asp 375
Ser Glu Glu Asn	Gly 380	Gln Val Ile Cys	Phe 385	Ile Gln Gly Asn	Leu 390
Pro Phe Lys Leu	Glu 395	Lys Ser Tyr Gly	Asn 400	Tyr Tyr Ser Leu	Val 405
Thr Asp Ile Val	Leu 410	Asp Arg Glu Gln	Val 415	Pro Ser Tyr Asn	Ile 420
Thr Val Thr Ala	Thr 425	Asp Arg Gly Thr	Pro 430	Pro Leu Ser Thr	Glu 435
Thr His Ile Ser	Leu 440	Asn Val Ala Asp	Thr 445	Asn Asp Asn Pro	Pro 450
Val Phe Pro Gln	Ala 455	Ser Tyr Ser Ala	Tyr 460	Ile Pro Glu Asn	Asn 465
Pro Arg Gly Val	Ser 470	Leu Val Ser Val	Thr 475	Ala His Asp Pro	Asp 480
Cys Glu Glu Asn	Ala 485	Gln Ile Thr Tyr	Ser 490	Leu Ala Glu Asn	Thr 495
Ile Gln Gly Ala	Ser 500	Leu Ser Ser Tyr	Val 505	Ser Ile Asn Ser	Asp 510
Thr Gly Val Leu	Tyr 515	Ala Leu Ser Ser	Phe 520	Asp Tyr Glu Gln	Phe 525
Arg Asp Leu Gln	Val 530	Lys Val Met Ala	Arg 535	Asp Asn Gly His	Pro 540
Pro Leu Ser Ser	Asn 545	Val Ser Leu Ser	Leu 550	Phe Val Leu Asp	Gln 555
Asn Asp Asn Ala	Pro 560	Glu Ile Leu Tyr	Pro 565	Ala Leu Pro Thr	Asp 570
Gly Ser Thr Gly	Val 575	Glu Leu Ala Pro	Arg 580	Ser Ala Glu Pro	Gly 585

Tyr	Leu	Val	Thr	Lys 590	Val	Val	Ala	Val	Asp 595	Arg	Asp	Ser	Gly	Gln 600
Asn	Ala	Trp	Leu	Ser 605	Tyr	Arg	Leu	Leu	Lys 610	Ala	Ser	Glu	Pro	Gly 615
Leu	Phe	Ser	Val	Gly 620	Leu	His	Thr	Gly	Glu 625	Val	Arg	Thr	Ala	Arg 630
Ala	Leu	Leu	Asp	Arg 635	Asp	Ala	Leu	Lys	Gln 640	Ser	Leu	Val	Val	Ala 645
Val	Gln	Asp	His	Gly 650	Gln	Pro	Pro	Leu	Ser 655	Ala	Thr	Val	Thr	Leu 660
Thr	Val	Ala	Val	Ala 665	Asp	Ser	Ile	Pro	Gln 670	Val	Leu	Ala	Asp	Leu 675
Gly	Ser	Leu	Glu	Ser 680	Pro	Ala	Asn	Ser	Glu 685	Thr	Ser	Asp	Leu	Thr 690
Leu	Tyr	Leu	Val	Val 695	Ala	Val	Ala	Ala	Val 700	Ser	Cys	Val	Phe	Leu 705
Ala	Phe	Val	Ile	Leu 710	Leu	Leu	Ala	Leu	Arg 715	Leu	Arg	Arg	Trp	His 720
Lys	Ser	Arg	Leu	Leu 725	Gln	Ala	Ser	Gly	Gly 730	Gly	Leu	Thr	Gly	Ala 735
Pro	Ala	Ser	His	Phe 740	Val	Gly	Val	Asp	Gly 745	Val	Gln	Ala	Phe	Leu 750
Gln	Thr	Tyr	Ser	His 755	Glu	Val	Ser	Leu	Thr 760	Thr	Asp	Ser	Arg	Lys 765
Ser	His	Leu	Ile	Phe 770	Pro	Gln	Pro	Asn	Tyr 775	Ala	Asp	Met	Leu	Val 780
Ser	Gln	Glu	Ser	Phe 785	Glu	Lys	Ser	Glu	Pro 790	Leu	Leu	Leu	Ser	Gly 795
Asp	Ser	Val	Phe	Ser 800	Lys	Asp	Ser	His	Gly 805	Leu	Ile	Glu	Val	Ser 810
Leu	Tyr	Gln	Ile	Phe 815	Phe	Leu	Phe	Phe	Phe 820	Asn	Cys	Ser	Val	Ser 825
Gln	Ala	Gly	Val	Gln 830	Arg	Tyr	Asp	His	Ser 835	Ser	Leu	Arg	Pro	Gln 840
Thr	Pro	Arg	Leu	Lys 845	Gln	Leu	Ser	His	Leu 850	Cys	Leu	Arg	Cys	Asn 855
Arg	Asp	Tyr	Arg	Cys 860	Lys	Pro	Pro	Thr	Val 865	Cys	Leu	Ser	Ile	Tyr 870
Leu	Ser	Ile	Tyr	Leu	Ser	Ile	Tyr	Leu	Ser	Ile	Tyr	Leu	Leu	Leu

	875		880		885
Ser Cys Thr Asp Gly Ser Leu Thr Pro Val Ile Pro Val Leu Trp					
	890		895		900
Glu Ala Glu Ala Gly Gly Ser Pro Glu Val Gly Ser Leu Arg Pro					
	905		910		915

Ala

<210> 391

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 391

tccgtctctg tgaaccgccc cac 23

<210> 392

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 392

ctcgggcgca ttgtcgttct ggtc 24

<210> 393

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 393

ccgactgtga aagagaacgc cccagatcca cttgttcccc 40

<210> 394

<211> 999

<212> DNA

<213> Homo sapiens

<400> 394

cccaggctct agtgcaggag gagaaggagg aggagcagga ggtggagatt 50

cccagttaaa aggtccaga atcgtgtacc aggagagaa ctgaagtact 100

ggggcctcct cactgggtc cgaatcagta ggtgaccccg ccctggatt 150

ctggaagacc tcaccatggg acgccccga cctcgtgcgg ccaagacgtg 200

gatgttcctg ctcttgctgg ggggagcctg ggcaggacac tccagggcac 250
 aggaggacaa ggtgctgggg ggtcatgagt gccaaaccca ttcgcagcct 300
 tggcaggcgg ccttggtcca gggccagcaa ctactctgtg gcggtgtcct 350
 tgtaggtggc aactgggtcc ttacagctgc ccactgtaaa aaaccgaaat 400
 acacagtacg cctgggagac cacagcctac agaataaaga tggcccagag 450
 caagaaatac ctgtggttca gtccatccca caccctgct acaacagcag 500
 cgatgtggag gaccacaacc atgatctgat gcttcttcaa ctgcgtgacc 550
 aggcattcct ggggtccaaa gtgaagccca tcagcctggc agatcattgc 600
 acccagcctg gccagaagtg caccgtctca ggctggggca ctgtcaccag 650
 tccccgagag aattttcctg acactctcaa ctgtgcagaa gtaaaaatct 700
 ttccccagaa gaagtgtgag gatgcttacc cggggcagat cacagatggc 750
 atggtctgtg caggcagcag caaaggggct gacacgtgcc agggcgattc 800
 tggaggcccc ctggtgtgtg atggtgcact ccagggcatt acatcctggg 850
 gctcagaccc ctgtgggagg tccgacaaac ctggcgtcta taccaacatc 900
 tgccgctacc tggactggat caagaagatc ataggcagca agggctgatt 950
 ctaggataag cactagatct cccttaataa actcacaact ctctggttc 999

<210> 395

<211> 260

<212> PRT

<213> Homo sapiens

<400> 395

Met	Gly	Arg	Pro	Arg	Pro	Arg	Ala	Ala	Lys	Thr	Trp	Met	Phe	Leu
1				5					10					15
Leu	Leu	Leu	Gly	Gly	Ala	Trp	Ala	Gly	His	Ser	Arg	Ala	Gln	Glu
			20						25					30
Asp	Lys	Val	Leu	Gly	Gly	His	Glu	Cys	Gln	Pro	His	Ser	Gln	Pro
			35						40					45
Trp	Gln	Ala	Ala	Leu	Phe	Gln	Gly	Gln	Gln	Leu	Leu	Cys	Gly	Gly
			50						55					60
Val	Leu	Val	Gly	Gly	Asn	Trp	Val	Leu	Thr	Ala	Ala	His	Cys	Lys
			65						70					75
Lys	Pro	Lys	Tyr	Thr	Val	Arg	Leu	Gly	Asp	His	Ser	Leu	Gln	Asn
			80						85					90
Lys	Asp	Gly	Pro	Glu	Gln	Glu	Ile	Pro	Val	Val	Gln	Ser	Ile	Pro
			95						100					105

His	Pro	Cys	Tyr	Asn	Ser	Ser	Asp	Val	Glu	Asp	His	Asn	His	Asp
				110					115					120
Leu	Met	Leu	Leu	Gln	Leu	Arg	Asp	Gln	Ala	Ser	Leu	Gly	Ser	Lys
				125					130					135
Val	Lys	Pro	Ile	Ser	Leu	Ala	Asp	His	Cys	Thr	Gln	Pro	Gly	Gln
				140					145					150
Lys	Cys	Thr	Val	Ser	Gly	Trp	Gly	Thr	Val	Thr	Ser	Pro	Arg	Glu
				155					160					165
Asn	Phe	Pro	Asp	Thr	Leu	Asn	Cys	Ala	Glu	Val	Lys	Ile	Phe	Pro
				170					175					180
Gln	Lys	Lys	Cys	Glu	Asp	Ala	Tyr	Pro	Gly	Gln	Ile	Thr	Asp	Gly
				185					190					195
Met	Val	Cys	Ala	Gly	Ser	Ser	Lys	Gly	Ala	Asp	Thr	Cys	Gln	Gly
				200					205					210
Asp	Ser	Gly	Gly	Pro	Leu	Val	Cys	Asp	Gly	Ala	Leu	Gln	Gly	Ile
				215					220					225
Thr	Ser	Trp	Gly	Ser	Asp	Pro	Cys	Gly	Arg	Ser	Asp	Lys	Pro	Gly
				230					235					240
Val	Tyr	Thr	Asn	Ile	Cys	Arg	Tyr	Leu	Asp	Trp	Ile	Lys	Lys	Ile
				245					250					255
Ile	Gly	Ser	Lys	Gly										
				260										

<210> 396

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 396

cagcctacag aataaagatg gcc 24

<210> 397

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 397

ggtgcaatga tctgccaggc tgat 24

<210> 398

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 398

agaaatacct gtggttcagt ccataccaaa cccctgctac aacagcag 48

<210> 399

<211> 2236

<212> DNA

<213> Homo sapiens

<400> 399

ggcgccggtg caccgggagg gctgagcgcc tcctgcggcc cggcctgcgc 50
gccccggccc gccgcgccgc ccacgcccc accccggccc gcgcccccta 100
gccccgccc gggcccgcgc ccgcgccgc gccaggtga gcgctccgcc 150
cgccgcgagg ccccgcccc gcccgcccc gcccgcccc ggccggcggg 200
ggaaccgggc ggattcctcg cgcgtcaaac cacctgatcc cataaaacat 250
tcatacctcc ggcgccccgc gctgcgagcg ccccgccagt ccgcgcgcgc 300
gccgccctcg ccctgtgcgc cctgcgcgcc ctgcgcaccc ggggcccag 350
cccagccaga gccgggcgga gcggagcgcg ccgagcctcg tcccgcggcc 400
gggcccgggc cgggcccgtg cggcggcgcc tggatgcgga cccggccgcg 450
gggagacggg cggccgcccc gaaacgactt tcagtcccc agcgccccg 500
cccaaccct acgatgaaga gggcgctccg tggagggagc cggctgctgg 550
catgggtgct gtggctgcag gcctggcagg tggcagcccc atgccagggt 600
gcctgcgtat gctacaatga gcccagggtg acgacaagct gccccagca 650
gggcctgcag gctgtgcccg tgggcatccc tgctgccagc cagcgcatct 700
tcctgcacgg caaccgcatc tcgcatgtgc cagctgccag cttccgtgcc 750
tgccgcaacc tcaccatcct gtggtgcac tcgaatgtgc tggcccgaat 800
tgatgcggct gccttactg gcctggccct cctggagcag ctggacctca 850
gcgataatgc acagctccgg tctgtggacc ctgccacatt ccacggcctg 900
ggccgcctac acacgctgca cctggaccgc tgcggcctgc aggagctggg 950
cccggggctg ttccgcggcc tggctgccct gcagtacctc tacctgcagg 1000
acaacgcgct gcaggcactg cctgatgaca cttccgcga cctgggcaac 1050
ctcacacacc tcttcctgca cggcaaccgc atctccagcg tgcccagcg 1100

cgccctccgt gggctgcaca gcctcgaccg tctcctactg caccagaacc 1150
gcgtggccca tgtgcacccg catgccttcc gtgaccttgg ccgcctcatg 1200
aacctctatc tgtttgcca caatctatca gcgctgcca ctgaggccct 1250
ggccccctg cgtgccctgc agtacctgag gctcaacgac aaccctggg 1300
tgtgtgactg ccgggcacgc ccactctggg cctggctgca gaagttccgc 1350
ggctcctcct ccgaggtgcc ctgcagcctc ccgcaacgcc tggctggccg 1400
tgacctcaa cgcctagctg ccaatgacct gcagggctgc gctgtggcca 1450
ccggccctta ccatcccatc tggaccggca gggccaccga tgaggagccg 1500
ctggggcttc ccaagtgtg ccagccagat gccgctgaca aggcctcagt 1550
actggagcct ggaagaccag cttcggcagg caatgcgctg aagggaacgcg 1600
tgccgcccgg tgacagcccg ccgggcaacg gctctggccc acggcacatc 1650
aatgactcac cctttgggac tctgcctggc tctgctgagc ccccgctcac 1700
tgacgtgcgg ccgaggggt ccgagccacc agggttcccc acctcgggcc 1750
ctcgccggag gccaggctgt tcacgcaaga accgcacccg cagccactgc 1800
cgtctgggcc aggcaggcag cgggggtggc gggactggtg actcagaagg 1850
ctcagggtgc ctaccagcc tcacctgcag cctcaccccc ctgggcctgg 1900
cgctggtgct gtggacagt cttggggcct gctgaccccc agcggacaca 1950
agagcgtgct cagcagccag gtgtgtgtac atacgggggtc tctctccacg 2000
ccgccaagcc agccgggcgg ccgaccctg gggcaggcca ggccagggtc 2050
tccctgatgg acgcctgccg cccgccaccc ccatctccac cccatcatgt 2100
ttacagggtt cggcggcagc gtttgttcca gaacgccgcc tcccaccag 2150
atcgcggtat atagagatat gcattttatt ttacttgtgt aaaaatatcg 2200
gacgacgtgg aataaagagc tcttttotta aaaaaa 2236

<210> 400
<211> 473
<212> PRT
<213> Homo sapiens

<400> 400
Met Lys Arg Ala Ser Ala Gly Gly Ser Arg Leu Leu Ala Trp Val
1 5 10 15
Leu Trp Leu Gln Ala Trp Gln Val Ala Ala Pro Cys Pro Gly Ala
20 25 30

Cys	Val	Cys	Tyr	Asn	Glu	Pro	Lys	Val	Thr	Thr	Ser	Cys	Pro	Gln	35	40	45
Gln	Gly	Leu	Gln	Ala	Val	Pro	Val	Gly	Ile	Pro	Ala	Ala	Ser	Gln	50	55	60
Arg	Ile	Phe	Leu	His	Gly	Asn	Arg	Ile	Ser	His	Val	Pro	Ala	Ala	65	70	75
Ser	Phe	Arg	Ala	Cys	Arg	Asn	Leu	Thr	Ile	Leu	Trp	Leu	His	Ser	80	85	90
Asn	Val	Leu	Ala	Arg	Ile	Asp	Ala	Ala	Ala	Phe	Thr	Gly	Leu	Ala	95	100	105
Leu	Leu	Glu	Gln	Leu	Asp	Leu	Ser	Asp	Asn	Ala	Gln	Leu	Arg	Ser	110	115	120
Val	Asp	Pro	Ala	Thr	Phe	His	Gly	Leu	Gly	Arg	Leu	His	Thr	Leu	125	130	135
His	Leu	Asp	Arg	Cys	Gly	Leu	Gln	Glu	Leu	Gly	Pro	Gly	Leu	Phe	140	145	150
Arg	Gly	Leu	Ala	Ala	Leu	Gln	Tyr	Leu	Tyr	Leu	Gln	Asp	Asn	Ala	155	160	165
Leu	Gln	Ala	Leu	Pro	Asp	Asp	Thr	Phe	Arg	Asp	Leu	Gly	Asn	Leu	170	175	180
Thr	His	Leu	Phe	Leu	His	Gly	Asn	Arg	Ile	Ser	Ser	Val	Pro	Glu	185	190	195
Arg	Ala	Phe	Arg	Gly	Leu	His	Ser	Leu	Asp	Arg	Leu	Leu	Leu	His	200	205	210
Gln	Asn	Arg	Val	Ala	His	Val	His	Pro	His	Ala	Phe	Arg	Asp	Leu	215	220	225
Gly	Arg	Leu	Met	Thr	Leu	Tyr	Leu	Phe	Ala	Asn	Asn	Leu	Ser	Ala	230	235	240
Leu	Pro	Thr	Glu	Ala	Leu	Ala	Pro	Leu	Arg	Ala	Leu	Gln	Tyr	Leu	245	250	255
Arg	Leu	Asn	Asp	Asn	Pro	Trp	Val	Cys	Asp	Cys	Arg	Ala	Arg	Pro	260	265	270
Leu	Trp	Ala	Trp	Leu	Gln	Lys	Phe	Arg	Gly	Ser	Ser	Ser	Glu	Val	275	280	285
Pro	Cys	Ser	Leu	Pro	Gln	Arg	Leu	Ala	Gly	Arg	Asp	Leu	Lys	Arg	290	295	300
Leu	Ala	Ala	Asn	Asp	Leu	Gln	Gly	Cys	Ala	Val	Ala	Thr	Gly	Pro	305	310	315
Tyr	His	Pro	Ile	Trp	Thr	Gly	Arg	Ala	Thr	Asp	Glu	Glu	Pro	Leu			

320	325	330
Gly Leu Pro Lys Cys Cys Gln Pro Asp	Ala Ala Asp Lys Ala Ser	
335	340	345
Val Leu Glu Pro Gly Arg Pro Ala Ser	Ala Gly Asn Ala Leu Lys	
350	355	360
Gly Arg Val Pro Pro Gly Asp Ser Pro	Pro Gly Asn Gly Ser Gly	
365	370	375
Pro Arg His Ile Asn Asp Ser Pro Phe	Gly Thr Leu Pro Gly Ser	
380	385	390
Ala Glu Pro Pro Leu Thr Ala Val Arg	Pro Glu Gly Ser Glu Pro	
395	400	405
Pro Gly Phe Pro Thr Ser Gly Pro Arg	Arg Arg Pro Gly Cys Ser	
410	415	420
Arg Lys Asn Arg Thr Arg Ser His Cys	Arg Leu Gly Gln Ala Gly	
425	430	435
Ser Gly Gly Gly Gly Thr Gly Asp Ser	Glu Gly Ser Gly Ala Leu	
440	445	450
Pro Ser Leu Thr Cys Ser Leu Thr Pro	Leu Gly Leu Ala Leu Val	
455	460	465
Leu Trp Thr Val Leu Gly Pro Cys		
470		

<210> 401

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 401

tggtgcccct gcagtacctc tacc 24

<210> 402

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 402

ccctgcaggt cattggcagc tagg 24

<210> 403

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 403

aggcactgcc tgatgacacc ttccgcgacc tgggcaacct cacac 45

<210> 404

<211> 2738

<212> DNA

<213> Homo sapiens

<400> 404

ggaagtccac ggggagcttg gatgccaaag ggaggacggc tgggtcctct 50
ggagaggact actcactggc atatttctga ggtatctgta gaataaccac 100
agcctcagat actggggact ttacagtccc acagaaccgt cctcccagga 150
agctgaatcc agcaagaaca atggaggcca gcgggaagct catttgaga 200
caaaggcaag tccttttttc ctttctcctt ttgggcttat ctctggcggg 250
cgcggcggaa cctagaagct attctgtggt ggaggaaact gagggcagct 300
cctttgtcac caatttagca aaggacctgg gtctggagca gaggggaattc 350
tccaggcggg gggttagggt tgtttccaga gggaacaaac tacatttgca 400
gctcaatcag gagaccgcg atttggtgct aaatgagaaa ttggaccgtg 450
aggatctgtg cggtcacaca gagccctgtg tgctacgttt ccaagtgttg 500
ctagagagtc ccttcgagtt ttttcaagct gagctgcaag taatagacat 550
aaacgaccac tctccagtat ttctggacaa acaaagtgtg gtgaaagtat 600
cagagagcag tcctcctggg actacgtttc ctctgaagaa tgccgaagac 650
ttagatgtag gccaaaacaa tattgagaac tatataatca gcccgaactc 700
ctattttcgg gtcctcacc gcaaacgcag tgatggcagg aaatacccag 750
agctggtgct ggacaaagcg ctggaccgag aggaagaagc tgagctcagg 800
ttaacactca cagcactgga tgggtggtct ccgcccagat ctggcactgc 850
tcaggtctac atcgaagtcc tggatgtcaa cgataatgcc cctgaatttg 900
agcagccttt ctatagagtg cagatctctg aggacagtcc ggtaggcttc 950
ctggttgatga aggtctctgc cacggatgta gacacaggag tcaacggaga 1000
gatttcctat tcaacttttc aagcttcaga agagattggc aaaaccttta 1050
agatcaatcc cttgacagga gaaattgaac taaaaaaca actcgatttc 1100
gaaaaacttc agtcctatga agtcaatatt gaggcaagag atgctggaac 1150

attttgtggc atttccatgc caatgtttat ttcccccaat ttgtgtgtat 2650
gtaatattgt acggattttac tottgatttt totcatgttc tttctccctt 2700
tgttttaaag tgaacattta cctttattcc tggttctt 2738

<210> 405
<211> 798
<212> PRT
<213> Homo sapiens

<400> 405

Met	Glu	Ala	Ser	Gly	Lys	Leu	Ile	Cys	Arg	Gln	Arg	Gln	Val	Leu	1	5	10	15
Phe	Ser	Phe	Leu	Leu	Leu	Gly	Leu	Ser	Leu	Ala	Gly	Ala	Ala	Glu	20	25	30	
Pro	Arg	Ser	Tyr	Ser	Val	Val	Glu	Glu	Thr	Glu	Gly	Ser	Ser	Phe	35	40	45	
Val	Thr	Asn	Leu	Ala	Lys	Asp	Leu	Gly	Leu	Glu	Gln	Arg	Glu	Phe	50	55	60	
Ser	Arg	Arg	Gly	Val	Arg	Val	Val	Ser	Arg	Gly	Asn	Lys	Leu	His	65	70	75	
Leu	Gln	Leu	Asn	Gln	Glu	Thr	Ala	Asp	Leu	Leu	Leu	Asn	Glu	Lys	80	85	90	
Leu	Asp	Arg	Glu	Asp	Leu	Cys	Gly	His	Thr	Glu	Pro	Cys	Val	Leu	95	100	105	
Arg	Phe	Gln	Val	Leu	Leu	Glu	Ser	Pro	Phe	Glu	Phe	Phe	Gln	Ala	110	115	120	
Glu	Leu	Gln	Val	Ile	Asp	Ile	Asn	Asp	His	Ser	Pro	Val	Phe	Leu	125	130	135	
Asp	Lys	Gln	Met	Leu	Val	Lys	Val	Ser	Glu	Ser	Ser	Pro	Pro	Gly	140	145	150	
Thr	Thr	Phe	Pro	Leu	Lys	Asn	Ala	Glu	Asp	Leu	Asp	Val	Gly	Gln	155	160	165	
Asn	Asn	Ile	Glu	Asn	Tyr	Ile	Ile	Ser	Pro	Asn	Ser	Tyr	Phe	Arg	170	175	180	
Val	Leu	Thr	Arg	Lys	Arg	Ser	Asp	Gly	Arg	Lys	Tyr	Pro	Glu	Leu	185	190	195	
Val	Leu	Asp	Lys	Ala	Leu	Asp	Arg	Glu	Glu	Glu	Ala	Glu	Leu	Arg	200	205	210	
Leu	Thr	Leu	Thr	Ala	Leu	Asp	Gly	Gly	Ser	Pro	Pro	Arg	Ser	Gly	215	220	225	
Thr	Ala	Gln	Val	Tyr	Ile	Glu	Val	Leu	Asp	Val	Asn	Asp	Asn	Ala				

230	235	240
Pro Glu Phe Glu Gln Pro Phe Tyr Arg	Val Gln Ile Ser Glu Asp	
245	250	255
Ser Pro Val Gly Phe Leu Val Val Lys	Val Ser Ala Thr Asp Val	
260	265	270
Asp Thr Gly Val Asn Gly Glu Ile Ser	Tyr Ser Leu Phe Gln Ala	
275	280	285
Ser Glu Glu Ile Gly Lys Thr Phe Lys	Ile Asn Pro Leu Thr Gly	
290	295	300
Glu Ile Glu Leu Lys Lys Gln Leu Asp	Phe Glu Lys Leu Gln Ser	
305	310	315
Tyr Glu Val Asn Ile Glu Ala Arg Asp	Ala Gly Thr Phe Ser Gly	
320	325	330
Lys Cys Thr Val Leu Ile Gln Val Ile	Asp Val Asn Asp His Ala	
335	340	345
Pro Glu Val Thr Met Ser Ala Phe Thr	Ser Pro Ile Pro Glu Asn	
350	355	360
Ala Pro Glu Thr Val Val Ala Leu Phe	Ser Val Ser Asp Leu Asp	
365	370	375
Ser Gly Glu Asn Gly Lys Ile Ser Cys	Ser Ile Gln Glu Asp Leu	
380	385	390
Pro Phe Leu Leu Lys Ser Ala Glu Asn	Phe Tyr Thr Leu Leu Thr	
395	400	405
Glu Arg Pro Leu Asp Arg Glu Ser Arg	Ala Glu Tyr Asn Ile Thr	
410	415	420
Ile Thr Val Thr Asp Leu Gly Thr Pro	Met Leu Ile Thr Gln Leu	
425	430	435
Asn Met Thr Val Leu Ile Ala Asp Val	Asn Asp Asn Ala Pro Ala	
440	445	450
Phe Thr Gln Thr Ser Tyr Thr Leu Phe	Val Arg Glu Asn Asn Ser	
455	460	465
Pro Ala Leu His Ile Arg Ser Val Ser	Ala Thr Asp Arg Asp Ser	
470	475	480
Gly Thr Asn Ala Gln Val Thr Tyr Ser	Leu Leu Pro Pro Gln Asp	
485	490	495
Pro His Leu Pro Leu Thr Ser Leu Val	Ser Ile Asn Ala Asp Asn	
500	505	510
Gly His Leu Phe Ala Leu Arg Ser Leu	Asp Tyr Glu Ala Leu Gln	
515	520	525

<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 406
ctgagaacgc gcctgaaact gtg 23

<210> 407
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 407
agcgttgtca ttgacatcgg cg 22

<210> 408
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 408
ttagttgctc cattcaggag gatctaccct tcctcctgaa atccgcggaa 50

<210> 409
<211> 1379
<212> DNA
<213> Homo sapiens

<400> 409
acccacgcgt ccgcccacgc gtcgcccac gcgtccgccc acgcgtccgc 50
gcgtagccgt gcgccgattg cctctcggcc tgggcaatgg tcccggctgc 100
cggtcgacga ccgccccgcg tcatgcggct cctcggctgg tggcaagtat 150
tgctgtgggt gctgggactt cccgtccgcg gcgtggaggt tgcagaggaa 200
agtggtcgct tatggtcaga ggagcagcct gtcaccctc tccaggtggg 250
ggctgtgtac ctgggtgagg aggagctcct gcatgaccgc atggggccagg 300
acagggcagc agaagaggcc aatgcggtgc tggggctgga cacccaaggc 350
gatcacatgg tgatgctgtc tgtgattcct ggggaagctg aggacaaagt 400
gagttcagag cctagcggcg tcacctgtgg tgctggagga gcggaggact 450
caaggtgcaa cgtccgagag agccttttct ctctggatgg cgctggagca 500

80										85					90				
Met	Val	Met	Leu	Ser	Val	Ile	Pro	Gly	Glu	Ala	Glu	Asp	Lys	Val					
				95					100					105					
Ser	Ser	Glu	Pro	Ser	Gly	Val	Thr	Cys	Gly	Ala	Gly	Gly	Ala	Glu					
				110					115					120					
Asp	Ser	Arg	Cys	Asn	Val	Arg	Glu	Ser	Leu	Phe	Ser	Leu	Asp	Gly					
				125					130					135					
Ala	Gly	Ala	His	Phe	Pro	Asp	Arg	Glu	Glu	Glu	Tyr	Tyr	Thr	Glu					
				140					145					150					
Pro	Glu	Val	Ala	Glu	Ser	Asp	Ala	Ala	Pro	Thr	Glu	Asp	Ser	Asn					
				155					160					165					
Asn	Thr	Glu	Ser	Leu	Lys	Ser	Pro	Lys	Val	Asn	Cys	Glu	Glu	Arg					
				170					175					180					
Asn	Ile	Thr	Gly	Leu	Glu	Asn	Phe	Thr	Leu	Lys	Ile	Leu	Asn	Met					
				185					190					195					
Ser	Gln	Asp	Leu	Met	Asp	Phe	Leu	Asn	Pro	Asn	Gly	Ser	Asp	Cys					
				200					205					210					
Thr	Leu	Val	Leu	Phe	Tyr	Thr	Pro	Trp	Cys	Arg	Phe	Ser	Ala	Ser					
				215					220					225					
Leu	Ala	Pro	His	Phe	Asn	Ser	Leu	Pro	Arg	Ala	Phe	Pro	Ala	Leu					
				230					235					240					
His	Phe	Leu	Ala	Leu	Asp	Ala	Ser	Gln	His	Ser	Ser	Leu	Ser	Thr					
				245					250					255					
Arg	Phe	Gly	Thr	Val	Ala	Val	Pro	Asn	Ile	Leu	Leu	Phe	Gln	Gly					
				260					265					270					
Ala	Lys	Pro	Met	Ala	Arg	Phe	Asn	His	Thr	Asp	Arg	Thr	Leu	Glu					
				275					280					285					
Thr	Leu	Lys	Ile	Phe	Ile	Phe	Asn	Gln	Thr	Gly	Ile	Glu	Ala	Lys					
				290					295					300					
Lys	Asn	Val	Val	Val	Thr	Gln	Ala	Asp	Gln	Ile	Gly	Pro	Leu	Pro					
				305					310					315					
Ser	Thr	Leu	Ile	Lys	Ser	Val	Asp	Trp	Leu	Leu	Val	Phe	Ser	Leu					
				320					325					330					
Phe	Phe	Leu	Ile	Ser	Phe	Ile	Met	Tyr	Ala	Thr	Ile	Arg	Thr	Glu					
				335					340					345					
Ser	Ile	Arg	Trp	Leu	Ile	Pro	Gly	Gln	Glu	Gln	Glu	His	Val	Glu					
				350					355					360					

<210> 411
 <211> 24

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 411
cacagagcca gaagtggcgg aatc 24

<210> 412
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 412
ccacatgttc ctgctcttgt cctgg 25

<210> 413
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 413
cggtagtgac tgtactctag tcctgtttta caccocgtgg tgccg 45

<210> 414
<211> 1196
<212> DNA
<213> Homo sapiens

<400> 414
cccggctccg ctccctctgc cccctcgggg tcgcgcgccc acgatgctgc 50
agggccctgg ctgcgtgctg ctgctattcc tcgcctcgca ctgctgcctg 100
ggctcggcgc gcgggctctt cctctttggc cagcccgaact tctcctacaa 150
gcgagcaat tgcaagccca tcccggtcaa cctgcagctg tgccacggca 200
tcgaatacca gaacatgcgg ctgccaacc tgctgggcca cgagaccatg 250
aaggaggtgc tggagcaggc cggcgcttgg atcccgtgg tcatgaagca 300
gtgccacccg gacaccaaga agttcctgtg ctgcctcttc gccccgtct 350
gcctcgatga cctagacgag accatccagc catgccactc gctctgcgtg 400
caggtgaagg accgctgcgc cccggtcatg tccgccttcg gcttcccctg 450
gcccgaatg cttgagtgcg accgtttccc ccaggacaac gacctttgca 500
tccccctcgc tagcagcgac cacctcctgc cagccaccga ggaagctcca 550

Trp	Pro	Asp	Met	Leu	Glu	Cys	Asp	Arg	Phe	Pro	Gln	Asp	Asn	Asp	
				140					145					150	
Leu	Cys	Ile	Pro	Leu	Ala	Ser	Ser	Asp	His	Leu	Leu	Pro	Ala	Thr	
				155					160					165	
Glu	Glu	Ala	Pro	Lys	Val	Cys	Glu	Ala	Cys	Lys	Asn	Lys	Asn	Asp	
				170					175					180	
Asp	Asp	Asn	Asp	Ile	Met	Glu	Thr	Leu	Cys	Lys	Asn	Asp	Phe	Ala	
				185					190					195	
Leu	Lys	Ile	Lys	Val	Lys	Glu	Ile	Thr	Tyr	Ile	Asn	Arg	Asp	Thr	
				200					205					210	
Lys	Ile	Ile	Leu	Glu	Thr	Lys	Ser	Lys	Thr	Ile	Tyr	Lys	Leu	Asn	
				215					220					225	
Gly	Val	Ser	Glu	Arg	Asp	Leu	Lys	Lys	Ser	Val	Leu	Trp	Leu	Lys	
				230					235					240	
Asp	Ser	Leu	Gln	Cys	Thr	Cys	Glu	Glu	Met	Asn	Asp	Ile	Asn	Ala	
				245					250					255	
Pro	Tyr	Leu	Val	Met	Gly	Gln	Lys	Gln	Gly	Gly	Glu	Leu	Val	Ile	
				260					265					270	
Thr	Ser	Val	Lys	Arg	Trp	Gln	Lys	Gly	Gln	Arg	Glu	Phe	Lys	Arg	
				275					280					285	
Ile	Ser	Arg	Ser	Ile	Arg	Lys	Leu	Gln	Cys						
				290					295						

<210> 416
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 416
 cctggctcgc tgctgctgct c 21

<210> 417
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 417
 cctcacaggt gcactgcaag ctgtc 25

<210> 418
 <211> 47
 <212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 418

ctcttcctct ttggccagcc cgacttctcc tacaagcgca gaattgc 47

<210> 419

<211> 1830

<212> DNA

<213> Homo sapiens

<400> 419

gtggaggccg ccgacgatgg cggggccgac ggaggccgag acgggggttg 50
ccgagccccg ggccctgtgc ggcagcggg gccaccgcac ctacgcgcgc 100
cgctgggtgt tctgtctgc gatcagcctg ctcaactgct ccaacgccac 150
gctgtggctc agctttgcac ctgtggctga cgtcattgct gaggacttgg 200
tctgtccat ggagcagatc aactggctgt cactggtcta cctcgtggta 250
tccaccccat ttggcgtggc ggccatctgg atcctggact ccgtcgggct 300
ccgtgcggcg accatcctgg gtgcgtggct gaactttgcc gggagtgtgc 350
tacgcatggg gccctgcatg gttgttggga cccaaaaccc atttgccttc 400
ctcatgggtg gccagagcct ctgtgccctt gccagagcc tggatcatctt 450
ctctccagcc aagctggctg ccttgtgggt cccagagcac cagcagacca 500
cggccaacat gctcgccacc atgtcgaacc ctctgggcgt ccttgtggcc 550
aatgtgctgt cccctgtgct ggtcaagaag ggtgaggaca ttccgttaat 600
gctcgggtgc tataccatcc ctgctggcgt cgtctgcctg ctgtccacca 650
tctgcctgtg ggagagtgtg cccccaccc cgcctctgc cggggctgcc 700
agctccacct cagagaagtt cctggatggg ctcaagctgc agtcatgtg 750
gaacaaggcc tatgtcatcc tggctgtgtg cttgggggga atgatcggga 800
tctctgccag cttctcagcc ctctggagc agatcctctg tgcaagcggc 850
cactccagtg ggttttccgg cctctgtggc gctctcttca tcacgtttgg 900
gatcctgggg gcactggctc toggccccta tgtggaccgg accaagcact 950
tcactgaggc caccaagatt ggctgtgcc tgttctctct ggcctgcgtg 1000
ccctttgcc tggtgtccca gctgcaggga cagacccttg cctggctgc 1050
cacctgctcg ctgctcgggc tgtttggctt ctcggtgggc ccgtggcca 1100

Gly Thr Gln Asn	Pro Phe Ala Phe Leu	Met Gly Gly Gln Ser Leu	110	115	120
	125	130			135
Cys Ala Leu Ala	Gln Ser Leu Val Ile	Phe Ser Pro Ala Lys Leu	140	145	150
Ala Ala Leu Trp	Phe Pro Glu His Gln	Arg Ala Thr Ala Asn Met	155	160	165
Leu Ala Thr Met	Ser Asn Pro Leu Gly	Val Leu Val Ala Asn Val	170	175	180
Leu Ser Pro Val	Leu Val Lys Lys Gly	Glu Asp Ile Pro Leu Met	185	190	195
Leu Gly Val Tyr	Thr Ile Pro Ala Gly	Val Val Cys Leu Leu Ser	200	205	210
Thr Ile Cys Leu	Trp Glu Ser Val Pro	Pro Thr Pro Pro Ser Ala	215	220	225
Gly Ala Ala Ser	Ser Thr Ser Glu Lys	Phe Leu Asp Gly Leu Lys	230	235	240
Leu Gln Leu Met	Trp Asn Lys Ala Tyr	Val Ile Leu Ala Val Cys	245	250	255
Leu Gly Gly Met	Ile Gly Ile Ser Ala	Ser Phe Ser Ala Leu Leu	260	265	270
Glu Gln Ile Leu	Cys Ala Ser Gly His	Ser Ser Gly Phe Ser Gly	275	280	285
Leu Cys Gly Ala	Leu Phe Ile Thr Phe	Gly Ile Leu Gly Ala Leu	290	295	300
Ala Leu Gly Pro	Tyr Val Asp Arg Thr	Lys His Phe Thr Glu Ala	305	310	315
Thr Lys Ile Gly	Leu Cys Leu Phe Ser	Leu Ala Cys Val Pro Phe	320	325	330
Ala Leu Val Ser	Gln Leu Gln Gly Gln	Thr Leu Ala Leu Ala Ala	335	340	345
Thr Cys Ser Leu	Leu Gly Leu Phe Gly	Phe Ser Val Gly Pro Val	350	355	360
Ala Met Glu Leu	Ala Val Glu Cys Ser	Phe Pro Val Gly Glu Gly	365	370	375
Ala Ala Thr Gly	Met Ile Phe Val Leu	Gly Gln Ala Glu Gly Ile	380	385	390
Leu Ile Met Leu	Ala Met Thr Ala Leu	Thr Val Arg Arg Ser Glu	395	400	405

Pro	Ser	Leu	Ser	Thr	Cys	Gln	Gln	Gly	Glu	Asp	Pro	Leu	Asp	Trp
				410					415					420
Thr	Val	Ser	Leu	Leu	Leu	Met	Ala	Gly	Leu	Cys	Thr	Phe	Phe	Ser
				425					430					435
Cys	Ile	Leu	Ala	Val	Phe	Phe	His	Thr	Pro	Tyr	Arg	Arg	Leu	Gln
				440					445					450
Ala	Glu	Ser	Gly	Glu	Pro	Pro	Ser	Thr	Arg	Asn	Ala	Val	Gly	Gly
				455					460					465
Ala	Asp	Ser	Gly	Pro	Gly	Val	Asp	Arg	Gly	Gly	Ala	Gly	Arg	Ala
				470					475					480
Gly	Val	Leu	Gly	Pro	Ser	Thr	Ala	Thr	Pro	Glu	Cys	Thr	Ala	Arg
				485					490					495
Gly	Ala	Ser	Leu	Glu	Asp	Pro	Arg	Gly	Pro	Gly	Ser	Pro	His	Pro
				500					505					510
Ala	Cys	His	Arg	Ala	Thr	Pro	Arg	Ala	Gln	Gly	Pro	Ala	Ala	Thr
				515					520					525
Asp	Ala	Pro	Ser	Arg	Pro	Gly	Arg	Leu	Ala	Gly	Arg	Val	Gln	Ala
				530					535					540
Ser	Arg	Phe	Ile	Asp	Pro	Ala	Gly	Ser	His	Ser	Ser	Phe	Ser	Ser
				545					550					555
Pro	Trp	Val	Ile	Thr										
				560										

<210> 421

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 421

agcttctcag ccctcctgga gcag 24

<210> 422

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 422

cggttcaata aacctggacg cttgg 25

<210> 423

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 423

tatgtggacc ggaccaagca cttcactgag gccaccaaga ttg 43

<210> 424

<211> 4313

<212> DNA

<213> Homo sapiens

<400> 424

gtcccatc ctgctcaact gggtcaggtc cctcttagac cagctcttgt 50
ccatcatttg ctgaagtgga ccaactagtt cccagtagg gggctctccc 100
tggcaattct tgatcggcgt ttggacatct cagatcgctt ccaatgaaga 150
tggccttgcc ttggggtcct gcttgtttca taatcatcta actatgggac 200
aaggttgtgc cggcagctct gggggaagga gcacggggct gatcaagcca 250
tccaggaaac actggaggac ttgtccagcc ttgaaagaac tctagtgggt 300
tctgaatcta gccacttgg cggtaaagcat gatgcaactt ctgcaacttc 350
tgctggggct tttggggcca ggtggctact tatttctttt aggggattgt 400
caggagggtga ccactctcac ggtgaaatac caagtgtcag aggaagtgcc 450
atctggtaca gtgatcggga agctgtccca ggaactgggc cgggaggaga 500
ggcggaggca agctggggcc gccttccagg tgttgacagct gcctcaggcg 550
ctccccattc aggtggactc tgaggaaggc ttgctcagca caggcaggcg 600
gctggatcga gagcagctgt gccgacagtg ggatccctgc ctggtttcct 650
ttgatgtgct tgccacaggg gatttggtc tgatccatgt ggagatccaa 700
gtgctggaca tcaatgacca ccagccacgg tttcccaaag gcgagcagga 750
gctggaatc tctgagagcg cctctctgcg aaccggatc cccctggaca 800
gagctcttga ccagacaca ggccctaaca ccctgcacac ctacactctg 850
tctcccagtg agcactttgc cttggatgtc attgtgggcc ctgatgagac 900
caaacatgca gaactcatag tggatgaagga gctggacagg gaaatccatt 950
cattttttga tctggtgtta actgcctatg acaatgggaa ccccccaag 1000
tcaggtagca gcttgggtcaa ggtcaacgtc ttggactcca atgacaatag 1050
ccctgcgttt gctgagagtt cactggcact ggaaatccaa gaagatgctg 1100

cacctggtac gcttctcata aaactgaccg ccacagaccc tgaccaaggc 1150
cccaatgggg aggtggaggtt cttcctcagt aagcacatgc ctccagaggt 1200
gctggacacc tttagtattg atgccaagac aggccaggtc attctgcgtc 1250
gacctctaga ctatgaaaag aaccctgcct acgaggtgga tgttcaggca 1300
agggacctgg gtccaatcc tatcccagcc cattgcaaag ttctcatcaa 1350
ggttctggat gtcaatgaca acatcccaag catccacgtc acatgggcct 1400
cccagccatc actggtgtca gaagctcttc ccaaggacag ttttattgct 1450
cttgtcatgg cagatgactt ggattcagga cacaatgggt tgggtccactg 1500
ctggctgagc caagagctgg gccacttcag gctgaaaaga actaatggca 1550
acacatacat gttgctaacc aatgccacac tggacagaga gcagtggccc 1600
aaatataccc tcaactctgtt agcccaagac caaggactcc agcccttattc 1650
agccaagaaa cagctcagca ttcagatcag tgacatcaac gacaatgcac 1700
ctgtgtttga gaaaagcagg tatgaagtct ccacgcggga aaacaactta 1750
ccctctcttc acctcattac catcaaggct catgatgcag acttgggcat 1800
taatggaaaa gtctcatacc gcattccagga ctcccagtt gtcacttag 1850
tagctattga ctccaacaca ggagaggtca ctgctcagag gtcactgaac 1900
tatgaagaga tggccggctt tgagttccag gtgatcgag aggcacgcgg 1950
gcaacccatg cttgcatcca gtgtctctgt gtgggtcagc ctcttggatg 2000
ccaatgataa tgccccagag gtgggtccagc ctgtgctcag cgatggaaaa 2050
gccagcctct ccgtgcttgt gaatgcctcc acaggccacc tgctggtgcc 2100
catcgagact cccaatggct tgggccagc gggcactgac acacctccac 2150
tggccactca cagctcccgg ccattccttt tgacaaccat tgtggcaaga 2200
gatgcagact cgggggcaaa tggagagccc ctctacagca tccgcaatgg 2250
aatgaagcc cacctcttca tcctcaaccc tcatacgggg cagctgttcg 2300
tcaatgtcac caatgccagc agcctcattg ggagtgagtg ggagctggag 2350
atagtagtag aggaccaggg aagccccccc ttacagaccc gagccctgtt 2400
gagggcatg tttgtcacca gtgtggacca cctgagggac tcagcccgca 2450
agcctggggc cttgagcatg tcgatgctga cggatgatctg cctggctgta 2500
ctgttgggca tcttcgggtt gatcctggct ttgttcatgt ccatctgccg 2550

ctgatgctac cccacagag gaggcaagag cccaggact aacagctgac 4050
 tgaccaaagc agcccttgt aagcagctct gagtcttttg gaggacaggg 4100
 acggtttgtg gctgagataa gtgtttcctg gcaaaacata tgtggagcac 4150
 aaagggtcag tcctctggca gaacagatgc cacggagtat cacaggcagg 4200
 aaaggggtggc cttcttgggt agcaggagtc agggggctgt accctggggg 4250
 tgccaggaaa tgctctctga cctatcaata aaggaaaagc agtaaaaaaa 4300
 aaaaaaaaaa aaa 4313

<210> 425
 <211> 1184
 <212> PRT
 <213> Homo sapiens

<400> 425

Met	Met	Gln	Leu	Leu	Gln	Leu	Leu	Leu	Gly	Leu	Leu	Gly	Pro	Gly	
1				5					10					15	
Gly	Tyr	Leu	Phe	Leu	Leu	Gly	Asp	Cys	Gln	Glu	Val	Thr	Thr	Leu	
				20					25					30	
Thr	Val	Lys	Tyr	Gln	Val	Ser	Glu	Glu	Val	Pro	Ser	Gly	Thr	Val	
				35					40					45	
Ile	Gly	Lys	Leu	Ser	Gln	Glu	Leu	Gly	Arg	Glu	Glu	Arg	Arg	Arg	
				50					55					60	
Gln	Ala	Gly	Ala	Ala	Phe	Gln	Val	Leu	Gln	Leu	Pro	Gln	Ala	Leu	
				65					70					75	
Pro	Ile	Gln	Val	Asp	Ser	Glu	Glu	Gly	Leu	Leu	Ser	Thr	Gly	Arg	
				80					85					90	
Arg	Leu	Asp	Arg	Glu	Gln	Leu	Cys	Arg	Gln	Trp	Asp	Pro	Cys	Leu	
				95					100					105	
Val	Ser	Phe	Asp	Val	Leu	Ala	Thr	Gly	Asp	Leu	Ala	Leu	Ile	His	
				110					115					120	
Val	Glu	Ile	Gln	Val	Leu	Asp	Ile	Asn	Asp	His	Gln	Pro	Arg	Phe	
				125					130					135	
Pro	Lys	Gly	Glu	Gln	Glu	Leu	Glu	Ile	Ser	Glu	Ser	Ala	Ser	Leu	
				140					145					150	
Arg	Thr	Arg	Ile	Pro	Leu	Asp	Arg	Ala	Leu	Asp	Pro	Asp	Thr	Gly	
				155					160					165	
Pro	Asn	Thr	Leu	His	Thr	Tyr	Thr	Leu	Ser	Pro	Ser	Glu	His	Phe	
				170					175					180	
Ala	Leu	Asp	Val	Ile	Val	Gly	Pro	Asp	Glu	Thr	Lys	His	Ala	Glu	
				185					190					195	

Leu Ile Val Val	Lys Glu Leu Asp Arg	Glu Ile His Ser Phe Phe	200	205	210
Asp Leu Val Leu	Thr Ala Tyr Asp Asn	Gly Asn Pro Pro Lys Ser	215	220	225
Gly Thr Ser Leu	Val Lys Val Asn Val	Leu Asp Ser Asn Asp Asn	230	235	240
Ser Pro Ala Phe	Ala Glu Ser Ser Leu	Ala Leu Glu Ile Gln Glu	245	250	255
Asp Ala Ala Pro	Gly Thr Leu Leu Ile	Lys Leu Thr Ala Thr Asp	260	265	270
Pro Asp Gln Gly	Pro Asn Gly Glu Val	Glu Phe Phe Leu Ser Lys	275	280	285
His Met Pro Pro	Glu Val Leu Asp Thr	Phe Ser Ile Asp Ala Lys	290	295	300
Thr Gly Gln Val	Ile Leu Arg Arg Pro	Leu Asp Tyr Glu Lys Asn	305	310	315
Pro Ala Tyr Glu	Val Asp Val Gln Ala	Arg Asp Leu Gly Pro Asn	320	325	330
Pro Ile Pro Ala	His Cys Lys Val Leu	Ile Lys Val Leu Asp Val	335	340	345
Asn Asp Asn Ile	Pro Ser Ile His Val	Thr Trp Ala Ser Gln Pro	350	355	360
Ser Leu Val Ser	Glu Ala Leu Pro Lys	Asp Ser Phe Ile Ala Leu	365	370	375
Val Met Ala Asp	Asp Leu Asp Ser Gly	His Asn Gly Leu Val His	380	385	390
Cys Trp Leu Ser	Gln Glu Leu Gly His	Phe Arg Leu Lys Arg Thr	395	400	405
Asn Gly Asn Thr	Tyr Met Leu Leu Thr	Asn Ala Thr Leu Asp Arg	410	415	420
Glu Gln Trp Pro	Lys Tyr Thr Leu Thr	Leu Leu Ala Gln Asp Gln	425	430	435
Gly Leu Gln Pro	Leu Ser Ala Lys Lys	Gln Leu Ser Ile Gln Ile	440	445	450
Ser Asp Ile Asn	Asp Asn Ala Pro Val	Phe Glu Lys Ser Arg Tyr	455	460	465
Glu Val Ser Thr	Arg Glu Asn Asn Leu	Pro Ser Leu His Leu Ile	470	475	480
Thr Ile Lys Ala	His Asp Ala Asp Leu	Gly Ile Asn Gly Lys Val			

Leu Arg Gly Gln Ala Gly Glu Pro Cys Glu Val Gly Gln Ser His	785	790	795
Lys Asp Val Asp Lys Glu Ala Met Met Glu Ala Gly Trp Asp Pro	800	805	810
Cys Leu Gln Ala Pro Phe His Leu Thr Pro Thr Leu Tyr Arg Thr	815	820	825
Leu Arg Asn Gln Gly Asn Gln Gly Ala Pro Ala Glu Ser Arg Glu	830	835	840
Val Leu Gln Asp Thr Val Asn Leu Leu Phe Asn His Pro Arg Gln	845	850	855
Arg Asn Ala Ser Arg Glu Asn Leu Asn Leu Pro Glu Pro Gln Pro	860	865	870
Ala Thr Gly Gln Pro Arg Ser Arg Pro Leu Lys Val Ala Gly Ser	875	880	885
Pro Thr Gly Arg Leu Ala Gly Asp Gln Gly Ser Glu Glu Ala Pro	890	895	900
Gln Arg Pro Pro Ala Ser Ser Ala Thr Leu Arg Arg Gln Arg His	905	910	915
Leu Asn Gly Lys Val Ser Pro Glu Lys Glu Ser Gly Pro Arg Gln	920	925	930
Ile Leu Arg Ser Leu Val Arg Leu Ser Val Ala Ala Phe Ala Glu	935	940	945
Arg Asn Pro Val Glu Glu Leu Thr Val Asp Ser Pro Pro Val Gln	950	955	960
Gln Ile Ser Gln Leu Leu Ser Leu Leu His Gln Gly Gln Phe Gln	965	970	975
Pro Lys Pro Asn His Arg Gly Asn Lys Tyr Leu Ala Lys Pro Gly	980	985	990
Gly Ser Arg Ser Ala Ile Pro Asp Thr Asp Gly Pro Ser Ala Arg	995	1000	1005
Ala Gly Gly Gln Thr Asp Pro Glu Gln Glu Glu Gly Pro Leu Asp	1010	1015	1020
Pro Glu Glu Asp Leu Ser Val Lys Gln Leu Leu Glu Glu Glu Leu	1025	1030	1035
Ser Ser Leu Leu Asp Pro Ser Thr Gly Leu Ala Leu Asp Arg Leu	1040	1045	1050
Ser Ala Pro Asp Pro Ala Trp Met Ala Arg Leu Ser Leu Pro Leu	1055	1060	1065
Thr Thr Asn Tyr Arg Asp Asn Val Ile Ser Pro Asp Ala Ala Ala			

1070	1075	1080
Thr Glu Glu Pro Arg Thr Phe Gln Thr Phe Gly Lys Ala Glu Ala		
1085	1090	1095
Pro Glu Leu Ser Pro Thr Gly Thr Arg Leu Ala Ser Thr Phe Val		
1100	1105	1110
Ser Glu Met Ser Ser Leu Leu Glu Met Leu Leu Glu Gln Arg Ser		
1115	1120	1125
Ser Met Pro Val Glu Ala Ala Ser Glu Ala Leu Arg Arg Leu Ser		
1130	1135	1140
Val Cys Gly Arg Thr Leu Ser Leu Asp Leu Ala Thr Ser Ala Ala		
1145	1150	1155
Ser Gly Met Lys Val Gln Gly Asp Pro Gly Gly Lys Thr Gly Thr		
1160	1165	1170
Glu Gly Lys Ser Arg Gly Ser Ser Ser Ser Ser Arg Cys Leu		
1175	1180	

<210> 426
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 426
 gtaagcacat gcctccagag gtgc 24

<210> 427
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 427
 gtgacgtgga tgcttgggat gttg 24

<210> 428
 <211> 50
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 428
 tggacacctt cagtattgat gccaaagacag gccaggtcat tctgcgtcga 50

<210> 429
 <211> 2037

<212> DNA

<213> Homo sapiens

<400> 429

cggacgcgtg ggcggacgcg tgggggagag cgcagctccc ggctgcagca 50
cctgggagaa ggcagaccgt gtgagggggc ctgtggcccc agcgtgctgt 100
ggcctcgggg agtgggaagt ggaggcagga gccttcctta cacttcgcca 150
tgagtttcct catcgactcc agcatcatga ttacctcca gatactat 200
tttggatttg ggtggctttt ctcatgcgc caattgttta aagactatga 250
gatacgtcag tatgttgtag aggtgatctt ctccgtgacg tttgcatttt 300
cttgcaccat gtttgagctc atcatctttg aaatcttagg agtattgaat 350
agcagctccc gttattttca ctggaaaatg aacctgtgtg taattctgct 400
gatcctgggtt ttcattggtgc ctttttacat tggctat 450
atatccgact actgcataaa caacgactgc ttttttcctg tctcttatgg 500
ctgaccttta tgtatttctt ctggaaacta ggagatccct ttcccattct 550
cagcccaaaa catgggatct tatccataga acagctcatc agccgggttg 600
gtgtgattgg agtgactctc atggctcttc tttctggatt tgggtgctgtc 650
aactgcccac acacttacat gtcttacttc ctgaggaatg tgactgacac 700
ggatattcta gccctggaac ggcgactgct gcaaaccatg gatatgatca 750
taagcaaaaa gaaaaggatg gcaatggcac ggagaacaat gttccagaag 800
ggggaagtgc ataacaacc atcaggtttc tggggaatga taaaaagtgt 850
taccacttca gcatcaggaa gtgaaaatct tactcttatt caacaggaag 900
tggatgcttt ggaagaatta agcaggcagc tttttctgga aacagctgat 950
ctatatgcta ccaaggagag aatagaatac tccaaaacct tcaaggggaa 1000
atattttaat tttcttggtt actttttctc tatttactgt gtttggaataa 1050
ttttcatggc taccatcaat attgtttttg atcgagttag gaaaacggat 1100
cctgtcacia gaggcattga gatcactgtg aattatctgg gaatccaatt 1150
tgatgtgaag ttttgggtccc aacacatttc cttcattctt gttggaataa 1200
tcatcgtcac atccatcaga ggattgctga tcaactcttac caagttcttt 1250
tatgcatctc ctagcagtaa gtcctccaat gtcattgtcc tgctatttagc 1300
acagataatg ggcattgtact ttgtctcttc tgtgctgctg atccgaatga 1350

gtatgccttt agaataccgc accataatca ctgaagtcct tggagaactg 1400
 cagttcaact tctatcacccg ttggtttgat gtgatcttcc tggtcagcgc 1450
 tctctctagc atactcttcc tctatttggc tcacaaacag gcaccagaga 1500
 agcaaattggc accttgaact taagcctact acagactgtt agaggccagt 1550
 ggtttcaaaa tttagatata agagggggga aaaatggaac cagggcctga 1600
 cattttataa acaaacaaaa tgctatggta gcatttttca cttcatagc 1650
 atactccttc cccgtcaggt gatactatga ccatgagtag catcagccag 1700
 aacatgagag ggagaactaa ctcaagacaa tactcagcag agagcatccc 1750
 gtgtggatat gaggctgggtg tagaggcgga gaggagccaa gaaactaaag 1800
 gtgaaaaata cactggaact ctggggcaag acatgtctat ggtagctgag 1850
 ccaaacacgt aggatttccg ttttaagggt cacatggaaa aggttatagc 1900
 tttgccttga gattgactca ttaaaatcag agactgtaac aaaaaaaaaa 1950
 aaaaaaaaaa agggcgccgc cgactctaga gtcgacctgc agaagcttgg 2000
 ccgccatggc ccaacttggt tattgcagct tataatg 2037

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400

<210> 430
 <211> 455
 <212> PRT
 <213> Homo sapiens

 <400> 430
 Met Ser Phe Leu Ile Asp Ser Ser Ile Met Ile Thr Ser Gln Ile
 1 5 10 15
 Leu Phe Phe Gly Phe Gly Trp Leu Phe Phe Met Arg Gln Leu Phe
 20 25 30
 Lys Asp Tyr Glu Ile Arg Gln Tyr Val Val Gln Val Ile Phe Ser
 35 40 45
 Val Thr Phe Ala Phe Ser Cys Thr Met Phe Glu Leu Ile Ile Phe
 50 55 60
 Glu Ile Leu Gly Val Leu Asn Ser Ser Ser Arg Tyr Phe His Trp
 65 70 75
 Lys Met Asn Leu Cys Val Ile Leu Leu Ile Leu Val Phe Met Val
 80 85 90
 Pro Phe Tyr Ile Gly Tyr Phe Ile Val Ser Asn Ile Arg Leu Leu
 95 100 105
 His Lys Gln Arg Leu Leu Phe Ser Cys Leu Leu Trp Leu Thr Phe
 110 115 120

Met Tyr Phe Phe Trp Lys Leu Gly Asp	Pro Phe Pro Ile Leu Ser	125	130	135
Pro Lys His Gly Ile Leu Ser Ile Glu Gln Leu Ile Ser Arg Val		140	145	150
Gly Val Ile Gly Val Thr Leu Met Ala Leu Leu Ser Gly Phe Gly		155	160	165
Ala Val Asn Cys Pro Tyr Thr Tyr Met Ser Tyr Phe Leu Arg Asn		170	175	180
Val Thr Asp Thr Asp Ile Leu Ala Leu Glu Arg Arg Leu Leu Gln		185	190	195
Thr Met Asp Met Ile Ile Ser Lys Lys Lys Arg Met Ala Met Ala		200	205	210
Arg Arg Thr Met Phe Gln Lys Gly Glu Val His Asn Lys Pro Ser		215	220	225
Gly Phe Trp Gly Met Ile Lys Ser Val Thr Thr Ser Ala Ser Gly		230	235	240
Ser Glu Asn Leu Thr Leu Ile Gln Gln Glu Val Asp Ala Leu Glu		245	250	255
Glu Leu Ser Arg Gln Leu Phe Leu Glu Thr Ala Asp Leu Tyr Ala		260	265	270
Thr Lys Glu Arg Ile Glu Tyr Ser Lys Thr Phe Lys Gly Lys Tyr		275	280	285
Phe Asn Phe Leu Gly Tyr Phe Phe Ser Ile Tyr Cys Val Trp Lys		290	295	300
Ile Phe Met Ala Thr Ile Asn Ile Val Phe Asp Arg Val Gly Lys		305	310	315
Thr Asp Pro Val Thr Arg Gly Ile Glu Ile Thr Val Asn Tyr Leu		320	325	330
Gly Ile Gln Phe Asp Val Lys Phe Trp Ser Gln His Ile Ser Phe		335	340	345
Ile Leu Val Gly Ile Ile Ile Val Thr Ser Ile Arg Gly Leu Leu		350	355	360
Ile Thr Leu Thr Lys Phe Phe Tyr Ala Ile Ser Ser Ser Lys Ser		365	370	375
Ser Asn Val Ile Val Leu Leu Leu Ala Gln Ile Met Gly Met Tyr		380	385	390
Phe Val Ser Ser Val Leu Leu Ile Arg Met Ser Met Pro Leu Glu		395	400	405
Tyr Arg Thr Ile Ile Thr Glu Val Leu Gly Glu Leu Gln Phe Asn				

410	415	420
Phe Tyr His Arg Trp Phe Asp Val Ile Phe Leu Val Ser Ala Leu		
425	430	435
Ser Ser Ile Leu Phe Leu Tyr Leu Ala His Lys Gln Ala Pro Glu		
440	445	450
Lys Gln Met Ala Pro		
455		

<210> 431
 <211> 407
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 78, 81, 113, 157, 224, 297
 <223> unknown base

<400> 431
 catgggaagt ggagccggag ccttccttac actcgccatg agtttcctca 50
 tcgactccag catcatgatt acctcccnga nactatTTTT tggatttggg 100
 tggcttttct tcnegcccaa tgtttaaaga ctatgagata cgtcagtatg 150
 ttgtacnggt gatcttctcc gtgacgtttg ccatttcttg caccatgttt 200
 gagctcatca tctttgaaat cttnggagta ttgaatagca gctcccgta 250
 ttttacttgg aaaatgaacc tgtgtgtaat tctgctgatc ctggttntca 300
 tgggtgccttt ttacattggc tattttattg tgagcaatat ccgactactg 350
 cataaacaac gactgctttt ttctgtctc ttatggctga cctttatgta 400
 tttccag 407

<210> 432
 <211> 457
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 31, 66, 81-82, 84, 122, 184, 187, 232, 241, 400, 424, 427, 434
 <223> unknown base

<400> 432
 gtgttgccct tggggagggg aaggggagcc nggccctttc ctaaaatttg 50
 gccaaagggt tctttnttga attccgggtt nngnatacct tcccagaaaa 100
 tatttttttg atttggggta gntttttttc atgcgccaat tgtttaaaga 150
 ctatgagata cgtcagtatg ttgtacaggt gatnttntcc gtgacgtttg 200

cattttcttg caccatgttt gagctcatca tntttgaaat nttaggagta 250
 ttgaatagca gctcccgtta ttttcaactgg aaaatgaacc tgtgtgtaat 300
 tctgctgac ctggttttca tgggtgccttt ttacattggc tattttattg 350
 tgagcaatat ccgactactg cataaacaac gactgctttt ttcctgtctn 400
 ttatggctga cctttatgta tttnttntgg aaantaggag atccctttcc 450
 cattctc 457

<210> 433
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 433
 aagtggagcc ggagccttcc 20

<210> 434
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 434
 tcgttggtta tgcagtagtc gg 22

<210> 435
 <211> 41
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 435
 attgtttaaa gactatgaga tacgtcagta tgttgtacag g 41

<210> 436
 <211> 3951
 <212> DNA
 <213> Homo sapiens

<400> 436
 ctgcgcagg gatcgtccca tggccggggc tcggagccgc gacccttggg 50
 gggcctccgg gatttgctac ctttttggct ccctgctcgt cgaactgctc 100
 ttctcacggg ctgtgcctt caatctggac gtgatgggtg ccttgcgcaa 150
 ggagggcgag ccaggcagcc tcttcggctt ctctgtggcc ctgcaccggc 200

tccccgtgtg acgttcctga gccgtaacct ggaagaaccc aagcaccagg 1700
cctcggggcac cgtgtggctg aagcaccagc atgaccgagt ctgtggagac 1750
gccatgttcc agctccagga aaatgtcaaa gacaagcttc gggccattgt 1800
agtgaacctg tcctacagtc tccagacccc toggctccgg cgacaggctc 1850
ctggccaggg gctgcctcca gtggccccc tctcaatgc ccaccagccc 1900
agcaccagc gggcagagat ccacttcctg aagcaaggct gtggtgaaga 1950
caagatctgc cagagcaatc tgcagctggg ccacgcccgc ttctgtaccc 2000
gggtcagcga cacggaattc caacctctgc ccatggatgt ggatggaaca 2050
acagccctgt ttgcactgag tgggcagcca gtcattggcc tggagctgat 2100
ggtcaccaac ctgccatcgg acccagoccc gcccaggct gatggggatg 2150
atgcccatag agcccagctc ctggatcatg ttcctgactc actgcactac 2200
tcaggggtcc gggccctgga ccctgoggag aagccactct gcctgtccaa 2250
tgagaatgcc tcccatgttg agtgtgagct ggggaacccc atgaagagag 2300
gtgcccaggt caccttctac ctcactctta gcacctccgg gatcagcatt 2350
gagaccacgg aactggaggt agagctgctg ttggccacga tcagtgaaga 2400
ggagctgcat ccagtctctg cagcagcccg tgtcttcatt gagctgccac 2450
tgtccattgc aggaatggcc attccccagc aactcttctt ctctgggtgtg 2500
gtgagggggc agagagccat gcagtctgag cgggatgtgg gcagcaagg 2550
caagtatgag gtcacgggtt ccaaccaagg ccagtcgctc agaaccctgg 2600
gctctgcctt cctcaacatc atgtggcctc atgagattgc caatgggaag 2650
tggttgctgt acccaatgca ggttgagctg gagggcgggc aggggcctgg 2700
gcagaaaggg ctttgcctc ccaggcccaa catcctccac ctggatgtgg 2750
acagtaggga taggaggcgg cgggagctgg agccacctga gcagcaggag 2800
cctggtgagc ggcaggagcc cagcatgtcc tgggtggcag tgcctctgc 2850
tgagaagaag aaaaacatca ccctggactg cggccggggc acggccaact 2900
gtgtggtgtt cagctgccc cttacagct ttgaccgagc ggctgtgctg 2950
catgtctggg gccgtctctg gaacagcacc tttctggagg agtactcagc 3000
tgtgaagtcc ctggaagtga ttgtccgggc caacatcaca gtgaagtcct 3050
ccataaagaa cttgatgctc cgagatgcct ccacagtgat ccagtgatg 3100

gtataacttgg accccatggc tgtggtggca gaaggagtgc cctggtgggt 3150
catcctcctg gctgtactgg ctgggctgct ggtgctagca ctgctggtgc 3200
tgctcctgtg gaagatggga ttcttcaaac gggcgaagca ccccgaggcc 3250
accgtgcccc agtaccatgc ggtgaagatt cctcgggaag accgacagca 3300
gttcaaggag gagaagacgg gcaccatcct gaggaacaac tggggcagcc 3350
cccggcggga gggcccgat gcacacccca tcctggctgc tgacgggcat 3400
cccgagctgg gccccgatgg gcatccaggg ccaggcaccg cctaggttcc 3450
catgtcccag cctggcctgt ggctgccctc catcccttcc ccagagatgg 3500
ctccttggga tgaagagggg agagtgggct gctggtgtcg catcaagatt 3550
tggcaggatc ggcttcctca ggggcacaga cctctccac ccacaagaac 3600
tcctcccacc caacttcccc ttagagtgtc gtgagatgag agtgggtaaa 3650
tcagggacag ggccatgggg tagggtgaga agggcagggg tgtcctgatg 3700
caaaggtggg gagaagggat cctaatacct tcctctcca ttcaccctgt 3750
gtaacaggac cccaaggacc tgctccccg gaagtgcctt aacctagagg 3800
gtcggggagg aggttgtgtc actgactcag gctgtcctt ctctagtttc 3850
ccctctcacc tgaccttagt ttgctgccat cagtctagt gtttcgtggt 3900
ttcgtctatt tattaaaaa tatttgagaa caaaaaaaaa aaaaaaaaaa 3950

a 3951

<210> 437

<211> 1141

<212> PRT

<213> Homo sapiens

<400> 437

Met	Ala	Gly	Ala	Arg	Ser	Arg	Asp	Pro	Trp	Gly	Ala	Ser	Gly	Ile
1				5					10					15

Cys	Tyr	Leu	Phe	Gly	Ser	Leu	Leu	Val	Glu	Leu	Leu	Phe	Ser	Arg
				20					25					30

Ala	Val	Ala	Phe	Asn	Leu	Asp	Val	Met	Gly	Ala	Leu	Arg	Lys	Glu
				35					40					45

Gly	Glu	Pro	Gly	Ser	Leu	Phe	Gly	Phe	Ser	Val	Ala	Leu	His	Arg
				50					55					60

Gln	Leu	Gln	Pro	Arg	Pro	Gln	Ser	Trp	Leu	Leu	Val	Gly	Ala	Pro
				65					70					75

Gln	Ala	Leu	Ala	Leu	Pro	Gly	Gln	Gln	Ala	Asn	Arg	Thr	Gly	Gly
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

80

85

90

Leu Phe Ala Cys Pro Leu Ser Leu Glu Glu Thr Asp Cys Tyr Arg
95 100 105

Val Asp Ile Asp Gln Gly Ala Asp Met Gln Lys Glu Ser Lys Glu
110 115 120

Asn Gln Trp Leu Gly Val Ser Val Arg Ser Gln Gly Pro Gly Gly
125 130 135

Lys Ile Val Thr Cys Ala His Arg Tyr Glu Ala Arg Gln Arg Val
140 145 150

Asp Gln Ile Leu Glu Thr Arg Asp Met Ile Gly Arg Cys Phe Val
155 160 165

Leu Ser Gln Asp Leu Ala Ile Arg Asp Glu Leu Asp Gly Gly Glu
170 175 180

Trp Lys Phe Cys Glu Gly Arg Pro Gln Gly His Glu Gln Phe Gly
185 190 195

Phe Cys Gln Gln Gly Thr Ala Ala Ala Phe Ser Pro Asp Ser His
200 205 210

Tyr Leu Leu Phe Gly Ala Pro Gly Thr Tyr Asn Trp Lys Gly Thr
215 220 225

Ala Arg Val Glu Leu Cys Ala Gln Gly Ser Ala Asp Leu Ala His
230 235 240

Leu Asp Asp Gly Pro Tyr Glu Ala Gly Gly Glu Lys Glu Gln Asp
245 250 255

Pro Arg Leu Ile Pro Val Pro Ala Asn Ser Tyr Phe Gly Phe Ser
260 265 270

Ile Asp Ser Gly Lys Gly Leu Val Arg Ala Glu Glu Leu Ser Phe
275 280 285

Val Ala Gly Ala Pro Arg Ala Asn His Lys Gly Ala Val Val Ile
290 295 300

Leu Arg Lys Asp Ser Ala Ser Arg Leu Val Pro Glu Val Met Leu
305 310 315

Ser Gly Glu Arg Leu Thr Ser Gly Phe Gly Tyr Ser Leu Ala Val
320 325 330

Ala Asp Leu Asn Ser Asp Gly Trp Pro Asp Leu Ile Val Gly Ala
335 340 345

Pro Tyr Phe Phe Glu Arg Gln Glu Glu Leu Gly Gly Ala Val Tyr
350 355 360

Val Tyr Leu Asn Gln Gly Gly His Trp Ala Gly Ile Ser Pro Leu
365 370 375

302

Arg	Leu	Cys	Gly	Ser	Pro	Asp	Ser	Met	Phe	Gly	Ile	Ser	Leu	Ala		380	385	390
Val	Leu	Gly	Asp	Leu	Asn	Gln	Asp	Gly	Phe	Pro	Asp	Ile	Ala	Val		395	400	405
Gly	Ala	Pro	Phe	Asp	Gly	Asp	Gly	Lys	Val	Phe	Ile	Tyr	His	Gly		410	415	420
Ser	Ser	Leu	Gly	Val	Val	Ala	Lys	Pro	Ser	Gln	Val	Leu	Glu	Gly		425	430	435
Glu	Ala	Val	Gly	Ile	Lys	Ser	Phe	Gly	Tyr	Ser	Leu	Ser	Gly	Ser		440	445	450
Leu	Asp	Met	Asp	Gly	Asn	Gln	Tyr	Pro	Asp	Leu	Leu	Val	Gly	Ser		455	460	465
Leu	Ala	Asp	Thr	Ala	Val	Leu	Phe	Arg	Ala	Arg	Pro	Ile	Leu	His		470	475	480
Val	Ser	His	Glu	Val	Ser	Ile	Ala	Pro	Arg	Ser	Ile	Asp	Leu	Glu		485	490	495
Gln	Pro	Asn	Cys	Ala	Gly	Gly	His	Ser	Val	Cys	Val	Asp	Leu	Arg		500	505	510
Val	Cys	Phe	Ser	Tyr	Ile	Ala	Val	Pro	Ser	Ser	Tyr	Ser	Pro	Thr		515	520	525
Val	Ala	Leu	Asp	Tyr	Val	Leu	Asp	Ala	Asp	Thr	Asp	Arg	Arg	Leu		530	535	540
Arg	Gly	Gln	Val	Pro	Arg	Val	Thr	Phe	Leu	Ser	Arg	Asn	Leu	Glu		545	550	555
Glu	Pro	Lys	His	Gln	Ala	Ser	Gly	Thr	Val	Trp	Leu	Lys	His	Gln		560	565	570
His	Asp	Arg	Val	Cys	Gly	Asp	Ala	Met	Phe	Gln	Leu	Gln	Glu	Asn		575	580	585
Val	Lys	Asp	Lys	Leu	Arg	Ala	Ile	Val	Val	Thr	Leu	Ser	Tyr	Ser		590	595	600
Leu	Gln	Thr	Pro	Arg	Leu	Arg	Arg	Gln	Ala	Pro	Gly	Gln	Gly	Leu		605	610	615
Pro	Pro	Val	Ala	Pro	Ile	Leu	Asn	Ala	His	Gln	Pro	Ser	Thr	Gln		620	625	630
Arg	Ala	Glu	Ile	His	Phe	Leu	Lys	Gln	Gly	Cys	Gly	Glu	Asp	Lys		635	640	645
Ile	Cys	Gln	Ser	Asn	Leu	Gln	Leu	Val	His	Ala	Arg	Phe	Cys	Thr		650	655	660
Arg	Val	Ser	Asp	Thr	Glu	Phe	Gln	Pro	Leu	Pro	Met	Asp	Val	Asp				

665										670					675				
Gly	Thr	Thr	Ala	Leu	Phe	Ala	Leu	Ser	Gly	Gln	Pro	Val	Ile	Gly					
				680					685					690					
Leu	Glu	Leu	Met	Val	Thr	Asn	Leu	Pro	Ser	Asp	Pro	Ala	Gln	Pro					
				695					700					705					
Gln	Ala	Asp	Gly	Asp	Asp	Ala	His	Glu	Ala	Gln	Leu	Leu	Val	Met					
				710					715					720					
Leu	Pro	Asp	Ser	Leu	His	Tyr	Ser	Gly	Val	Arg	Ala	Leu	Asp	Pro					
				725					730					735					
Ala	Glu	Lys	Pro	Leu	Cys	Leu	Ser	Asn	Glu	Asn	Ala	Ser	His	Val					
				740					745					750					
Glu	Cys	Glu	Leu	Gly	Asn	Pro	Met	Lys	Arg	Gly	Ala	Gln	Val	Thr					
				755					760					765					
Phe	Tyr	Leu	Ile	Leu	Ser	Thr	Ser	Gly	Ile	Ser	Ile	Glu	Thr	Thr					
				770					775					780					
Glu	Leu	Glu	Val	Glu	Leu	Leu	Leu	Ala	Thr	Ile	Ser	Glu	Gln	Glu					
				785					790					795					
Leu	His	Pro	Val	Ser	Ala	Arg	Ala	Arg	Val	Phe	Ile	Glu	Leu	Pro					
				800					805					810					
Leu	Ser	Ile	Ala	Gly	Met	Ala	Ile	Pro	Gln	Gln	Leu	Phe	Phe	Ser					
				815					820					825					
Gly	Val	Val	Arg	Gly	Glu	Arg	Ala	Met	Gln	Ser	Glu	Arg	Asp	Val					
				830					835					840					
Gly	Ser	Lys	Val	Lys	Tyr	Glu	Val	Thr	Val	Ser	Asn	Gln	Gly	Gln					
				845					850					855					
Ser	Leu	Arg	Thr	Leu	Gly	Ser	Ala	Phe	Leu	Asn	Ile	Met	Trp	Pro					
				860					865					870					
His	Glu	Ile	Ala	Asn	Gly	Lys	Trp	Leu	Leu	Tyr	Pro	Met	Gln	Val					
				875					880					885					
Glu	Leu	Glu	Gly	Gly	Gln	Gly	Pro	Gly	Gln	Lys	Gly	Leu	Cys	Ser					
				890					895					900					
Pro	Arg	Pro	Asn	Ile	Leu	His	Leu	Asp	Val	Asp	Ser	Arg	Asp	Arg					
				905					910					915					
Arg	Arg	Arg	Glu	Leu	Glu	Pro	Pro	Glu	Gln	Gln	Glu	Pro	Gly	Glu					
				920					925					930					
Arg	Gln	Glu	Pro	Ser	Met	Ser	Trp	Trp	Pro	Val	Ser	Ser	Ala	Glu					
				935					940					945					
Lys	Lys	Lys	Asn	Ile	Thr	Leu	Asp	Cys	Ala	Arg	Gly	Thr	Ala	Asn					
				950					955					960					

Cys	Val	Val	Phe	Ser	Cys	Pro	Leu	Tyr	Ser	Phe	Asp	Arg	Ala	Ala	
				965					970					975	
Val	Leu	His	Val	Trp	Gly	Arg	Leu	Trp	Asn	Ser	Thr	Phe	Leu	Glu	
				980					985					990	
Glu	Tyr	Ser	Ala	Val	Lys	Ser	Leu	Glu	Val	Ile	Val	Arg	Ala	Asn	
				995					1000					1005	
Ile	Thr	Val	Lys	Ser	Ser	Ile	Lys	Asn	Leu	Met	Leu	Arg	Asp	Ala	
				1010					1015					1020	
Ser	Thr	Val	Ile	Pro	Val	Met	Val	Tyr	Leu	Asp	Pro	Met	Ala	Val	
				1025					1030					1035	
Val	Ala	Glu	Gly	Val	Pro	Trp	Trp	Val	Ile	Leu	Leu	Ala	Val	Leu	
				1040					1045					1050	
Ala	Gly	Leu	Leu	Val	Leu	Ala	Leu	Leu	Val	Leu	Leu	Leu	Trp	Lys	
				1055					1060					1065	
Met	Gly	Phe	Phe	Lys	Arg	Ala	Lys	His	Pro	Glu	Ala	Thr	Val	Pro	
				1070					1075					1080	
Gln	Tyr	His	Ala	Val	Lys	Ile	Pro	Arg	Glu	Asp	Arg	Gln	Gln	Phe	
				1085					1090					1095	
Lys	Glu	Glu	Lys	Thr	Gly	Thr	Ile	Leu	Arg	Asn	Asn	Trp	Gly	Ser	
				1100					1105					1110	
Pro	Arg	Arg	Glu	Gly	Pro	Asp	Ala	His	Pro	Ile	Leu	Ala	Ala	Asp	
				1115					1120					1125	
Gly	His	Pro	Glu	Leu	Gly	Pro	Asp	Gly	His	Pro	Gly	Pro	Gly	Thr	
				1130					1135					1140	
Ala															

<210> 438

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 438

ggctgacacc gcagtgtctt tcag 24

<210> 439

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 439
gctgctgggg actgcaatgt agct 24

<210> 440

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 440

catcctccat gtctcccatg aggtctctat tgctccacga agcatc 46

<210> 441

<211> 1964

<212> DNA

<213> Homo sapiens

<400> 441

cgcgccgggc gcagggagct gaggggacgg ctcgagacgg cggcgcgctgc 50

agcagctcca gaaagcagcg agttggcaga gcagggctgc atttccagca 100

ggagctgcga gcacagtgtt ggctcacaac aagatgctca aggtgtcagc 150

cgtactgtgt gtgtgtgcag ccgcttggtg cagtcagtct ctgcgagctg 200

ccgcggcggg ggctgcagcc ggggggcggg cggacggcgg taattttctg 250

gatgataaac aatgggtcac cacaatctct cagtatgaca aggaagtcgg 300

acagtggaaac aaavtccgag acgaagtaga ggatgattat ttccgcactt 350

ggagtccagg aaaacccttc gatcaggctt tagatccagc taaggatcca 400

tgcttaaaga tgaaatgtag tcgccataaa gtatgcattg ctcaagattc 450

tcagactgca gtctgcatta gtcaccggag gcttacacac aggatgaaag 500

aagcaggagt agaccatagg cagtggaggg gtcccatatt atccacctgc 550

aagcagtgcc cagtgggtcta tcccagccct gtttgtgggt cagatgggtca 600

tacctactct tttcagtgc aactagaata tcaggcatgt gtcttaggaa 650

aacagatctc agtcaaagt gaaggacatt gcccatgtcc ttcagataag 700

cccaccagta caagcagaaa tgtaagaga gcatgcagtg acctggagtt 750

caggggaagt gcaaacagat tgccgggactg gttcaaggcc cttcatgaaa 800

gtggaagtca aaacaagaag acaaaaacat tgctgaggcc tgagagaagc 850

agattcgata ccagcatctt gccaatgtgc aaggactcac ttggctggat 900

gtttaacaga cttgatacaa actatgacct gctattggac cagtcagagc 950

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200

tcagaagcat ttaccttgat aagaatgaac agtgtacca ggcattcttc 1000
 aattcttgatg acacatacaa ggacagttta atatctaata atgagtgggtg 1050
 ctactgcttc cagagacagc aagaccacc ttgccagact gagctcagca 1100
 atattcagaa gcggcaaggg gtaaagaagc tcctaggaca gtatatcccc 1150
 ctgtgtgatg aagatgggta ctacaagcca acacaatgtc atggcagtgt 1200
 tggacagtgc tgggtgtgttg acagatatgg aatgaagtc atgggatcca 1250
 gaataaatgg tgttcagat tgtgctatag attttgagat ctccggagat 1300
 tttgctagtgc gcgattttca tgaatggact gatgatgagg atgatgaaga 1350
 cgatattatg aatgatgaag atgaaattga agatgatgat gaagatgaag 1400
 gggatgatga tgatgggtgt gatgaccatg atgtatacat ttgattgatg 1450
 acagttgaaa tcaataaatt ctacatttct aatatttaca aaaatgatag 1500
 cctattttaa attatcttct tccccataa caaatgatt ctaaactca 1550
 catatatttt gtataattat ttgaaaaatt gcagctaaag ttatagaact 1600
 ttatgtttaa ataagaatca tttgctttga gtttttatat tccttacaca 1650
 aaaagaaaat acatatgcag tctagtcaga caaataaag ttttgaagtg 1700
 ctactataat aaatttttca cgagaacaaa ctttgtaa atctccataag 1750
 caaatgaca gctagtgtt gggatcgtac atgttaattt tttgaaagat 1800
 aattctaagt gaaattttaa ataaataaat ttttaatgac ctgggtctta 1850
 aggatttagg aaaaatatgc atgctttaat tgcatttcca aagtagcatc 1900
 ttgctagacc tagatgagtc aggataacag agagatacca catgactcca 1950
 aaaaaaaaaa aaaa 1964

<210> 442
 <211> 436
 <212> PRT
 <213> Homo sapiens

 <400> 442
 Met Leu Lys Val Ser Ala Val Leu Cys Val Cys Ala Ala Ala Trp
 1 5 10 15
 Cys Ser Gln Ser Leu Ala Ala Ala Ala Val Ala Ala Ala Gly
 20 25 30
 Gly Arg Ser Asp Gly Gly Asn Phe Leu Asp Asp Lys Gln Trp Leu
 35 40 45
 Thr Thr Ile Ser Gln Tyr Asp Lys Glu Val Gly Gln Trp Asn Lys

60

Lys Lys Leu Leu Gly Gln Tyr Ile Pro Leu Cys Asp Glu Asp Gly
335 340 345

Tyr	Tyr	Lys	Pro	Thr	Gln	Cys	His	Gly	Ser	Val	Gly	Gln	Cys	Trp
				350					355					360
Cys	Val	Asp	Arg	Tyr	Gly	Asn	Glu	Val	Met	Gly	Ser	Arg	Ile	Asn
				365					370					375
Gly	Val	Ala	Asp	Cys	Ala	Ile	Asp	Phe	Glu	Ile	Ser	Gly	Asp	Phe
				380					385					390
Ala	Ser	Gly	Asp	Phe	His	Glu	Trp	Thr	Asp	Asp	Glu	Asp	Asp	Glu
				395					400					405
Asp	Asp	Ile	Met	Asn	Asp	Glu	Asp	Glu	Ile	Glu	Asp	Asp	Asp	Glu
				410					415					420
Asp	Glu	Gly	Asp	Asp	Asp	Asp	Gly	Gly	Asp	Asp	His	Asp	Val	Tyr
				425					430					435

Ile

<210> 443
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe
 <400> 443
 cagcaatatt cagaagcggc aaggg 25

<210> 444
 <211> 28
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe
 <400> 444
 catcatggtc atcaccacca tcatcatc 28

<210> 445
 <211> 48
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 445
 gggtactaca agccaacaca atgtcatggc agtggtggac agtgctgg 48

<210> 446
 <211> 3617
 <212> DNA
 <213> Homo sapiens

<400> 446

cagactccag atttccctgt caaccacgag gagtccagag aggaaacgcg 50
gagcggagac aacagtacct gacgcctctt tcagcccggg atcgccccag 100
cagggatggg cgacaagatc tggtgcccct tccccgtgct cttcttgcc 150
gctctgcctc cggtgctgct gcctggggcg gccggcttca caccttccct 200
cgatagcgac ttcaccttta cccttcccgc cggccagaag gagtgtttct 250
accagcccat gccctgaag gcctcgctgg agatcgagta ccaagtttta 300
gatggagcag gattagatat tgatttccat cttgcctctc cagaaggcaa 350
aaccttagtt tttgaacaaa gaaaatcaga tggagttcac actgtagaga 400
ctgaagttgg tgattacatg ttctgctttg acaatacatt cagcaccatt 450
tctgagaagg tgattttctt tgaattaatc ctggataata tgggagaaca 500
ggcacaagaa caagaagatt ggaagaaata tattactggc acagatatat 550
tggatatgaa actggaagac atcctggaat ccatcaacag catcaagtcc 600
agactaagca aaagtgggca catacaaatt ctgcttagag catttgaagc 650
tcgtgatcga aacatacaag aaagcaactt tgatagagtc aatttctggt 700
ctatggttaa tttagtggtc atggtggtgg tgtcagccat tcaagtttat 750
atgctgaaga gtctgtttga agataagagg aaaagtagaa cttaaaactc 800
caaactagag tacgtaacat tgaaaaatga ggcataaaaa tgcaataaac 850
tgttacagtc aagaccatta atggtcttct ccaaaatatt ttgagatata 900
aaagtaggaa acaggtataa ttttaatgtg aaaattaagt cttcactttc 950
tgtgcaagta atcctgctga tccagttgta ctttaagtgtg taacaggaat 1000
attttgcaga atataggttt aactgaatga agccatatta ataactgcat 1050
tttctaact ttgaaaaatt ttgcaaatgt cttaggtgat ttaaataaat 1100
gagtattggg cctaattgca acaccagtct gtttttaaca ggttctatta 1150
cccagaactt ttttgtaa at gcggcagtta caaattaact gtggaagttt 1200
tcagttttta gttataaatc acctgagaat tacctaataa tggattgaat 1250
aatcttttag actacaaaag cccaactttt ctctattttac atatgcatct 1300
ctcctataat gtaaatagaa taatagcttt gaaatacaat taggtttttg 1350
agatttttat aaccaaatac atttcagtgt aacatattag cagaaagcat 1400
tagtctttgt actttgctta cattcccaaa agctgacatt ttcacgattc 1450

taccatataa aaacgataat tgctttatatt ggaaaagaat ttaggaatac 2950
 taaggacaat tatttttata gacaaagtaa aaagacagat atttaagagg 3000
 cataaccaa aaagcaaaac ttgtaaacag agtaaaaatc tttaatatatt 3050
 ctaaagacat actgtttatc tgcttcatat gcttttttta atttcactat 3100
 tccatttcta aattaaagtt atgctaaatt gagtaagctg tttatcactt 3150
 aacagctcat tttgtctttt tcaatataca aattttaaaa atactacaat 3200
 atttaactaa ggcccaaccg atttcataa tgtagcagtt accgtgttca 3250
 cctcacacta aggcctagag ttgtctctga tatgcatttg gatgattaat 3300
 gttatgctgt tctttcatgt gaatgtcaag acatggaggg tgtttgtaat 3350
 tttatggtaa aattaatcct tcttacacat aatggtgtct taaaattgac 3400
 aaaaaatgag cacttacaat tgtatgtctc ctcaaatgaa gattctttat 3450
 gtgaaatttt aaaagacatt gattccgcat gtaaggattt ttcattctgaa 3500
 gtacaataat gcacaatcag tggtgctcaa actgctttat acttataaac 3550
 agccattctta aataagcaac gtattgtgag tactgatatg tatataataa 3600
 aaattatcaa aggaaaa 3617

<210> 447

<211> 229

<212> PRT

<213> Homo sapiens

<400> 447

Met	Gly	Asp	Lys	Ile	Trp	Leu	Pro	Phe	Pro	Val	Leu	Leu	Leu	Ala
1				5					10					15
Ala	Leu	Pro	Pro	Val	Leu	Leu	Pro	Gly	Ala	Ala	Gly	Phe	Thr	Pro
				20					25					30
Ser	Leu	Asp	Ser	Asp	Phe	Thr	Phe	Thr	Leu	Pro	Ala	Gly	Gln	Lys
				35					40					45
Glu	Cys	Phe	Tyr	Gln	Pro	Met	Pro	Leu	Lys	Ala	Ser	Leu	Glu	Ile
				50					55					60
Glu	Tyr	Gln	Val	Leu	Asp	Gly	Ala	Gly	Leu	Asp	Ile	Asp	Phe	His
				65					70					75
Leu	Ala	Ser	Pro	Glu	Gly	Lys	Thr	Leu	Val	Phe	Glu	Gln	Arg	Lys
				80					85					90
Ser	Asp	Gly	Val	His	Thr	Val	Glu	Thr	Glu	Val	Gly	Asp	Tyr	Met
				95					100					105
Phe	Cys	Phe	Asp	Asn	Thr	Phe	Ser	Thr	Ile	Ser	Glu	Lys	Val	Ile

	110	115	120
Phe Phe Glu Leu	Ile Leu Asp Asn Met	Gly Glu Gln Ala Gln	Glu
	125	130	135
Gln Glu Asp Trp	Lys Lys Tyr Ile Thr	Gly Thr Asp Ile Leu	Asp
	140	145	150
Met Lys Leu Glu	Asp Ile Leu Glu Ser	Ile Asn Ser Ile Lys	Ser
	155	160	165
Arg Leu Ser Lys	Ser Gly His Ile Gln	Ile Leu Leu Arg Ala	Phe
	170	175	180
Glu Ala Arg Asp	Arg Asn Ile Gln Glu	Ser Asn Phe Asp Arg	Val
	185	190	195
Asn Phe Trp Ser	Met Val Asn Leu Val	Val Met Val Val Val	Ser
	200	205	210
Ala Ile Gln Val	Tyr Met Leu Lys Ser	Leu Phe Glu Asp Lys	Arg
	215	220	225

Lys Ser Arg Thr

<210> 448

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 448

cccagcaggg ctgggcgaca aga 23

<210> 449

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 449

gtcttccagt ttcatatcca ata 23

<210> 450

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 450

ccagaaggag cacggggaag ggcagccaga tcttgtcgcc cat 43

<210> 451
 <211> 859
 <212> DNA
 <213> Homo sapiens

<400> 451
 ccatccctga gatcttttta taaaaaaccc agtccttgct gaccagacaa 50
 agcataccag atctcaccag agagtcgcag aactatgct gcctcccatg 100
 gccctgcca gtgtgtcctg gatgctgctt tctgcctca ttctcctgtg 150
 tcagggtcaa ggtgaagaaa ccagaagga actgccctct ccacggatca 200
 gctgtcccaa aggtccaag gcctatggct cccctgcta tgccttgttt 250
 ttgtcaccaa aatcctggat ggatgcagat ctggcttgcc agaagcggcc 300
 ctctggaaaa ctggtgtctg tgctcagtgg ggctgagga tccttcgtgt 350
 cctccctggt gaggagcatt agtaacagct actcatacat ctggattggg 400
 ctccatgacc ccacacaggg ctctgagcct gatggagatg gatgggagtg 450
 gagtagcact gatgtgatga attactttgc atgggagaaa aatccctcca 500
 ccatcttaaa ccctggccac tgtgggagcc tgtcaagaag cacaggattt 550
 ctgaagtgga aagattataa ctgtgatgca aagttaccct atgtctgcaa 600
 gttcaaggac tagggcaggt ggaagtcag cagcctcagc ttggcgtgca 650
 gctcatcatg gacatgagac cagtgtgaag actcaccctg gaagagaata 700
 ttctcccaa actgccctac ctgactacct tgtcatgac ctccttcttt 750
 ttctttttt ttaccttca ttccaggctt ttctctgtct tccatgtctt 800
 gagatctcag agaataataa taaaatggt actttataaa aaaaaaaaaa 850
 aaaaaaaaaa 859

<210> 452
 <211> 175
 <212> PRT
 <213> Homo sapiens

<400> 452
 Met Leu Pro Pro Met Ala Leu Pro Ser Val Ser Trp Met Leu Leu
 1 5 10 15
 Ser Cys Leu Ile Leu Leu Cys Gln Val Gln Gly Glu Glu Thr Gln
 20 25 30
 Lys Glu Leu Pro Ser Pro Arg Ile Ser Cys Pro Lys Gly Ser Lys
 35 40 45
 Ala Tyr Gly Ser Pro Cys Tyr Ala Leu Phe Leu Ser Pro Lys Ser

CCDS: C12345.1

Trp Met Asp Ala	Asp Leu Ala Cys Gln Lys Arg Pro Ser Gly Lys	
	65	70 75
Leu Val Ser Val	Leu Ser Gly Ala Glu Gly Ser Phe Val Ser Ser	
	80	85 90
Leu Val Arg Ser	Ile Ser Asn Ser Tyr Ser Tyr Ile Trp Ile Gly	
	95	100 105
Leu His Asp Pro	Thr Gln Gly Ser Glu Pro Asp Gly Asp Gly Trp	
	110	115 120
Glu Trp Ser Ser	Thr Asp Val Met Asn Tyr Phe Ala Trp Glu Lys	
	125	130 135
Asn Pro Ser Thr	Ile Leu Asn Pro Gly His Cys Gly Ser Leu Ser	
	140	145 150
Arg Ser Thr Gly	Phe Leu Lys Trp Lys Asp Tyr Asn Cys Asp Ala	
	155	160 165
Lys Leu Pro Tyr	Val Cys Lys Phe Lys Asp	
	170	175

<210> 453
 <211> 550
 <212> DNA
 <213> Homo sapiens

<400> 453
 ccagtctgtc gccacctcac ttggtgtctg ctgtccccgc caggcaagcc 50
 tgggggtgaga gcacagagga gtggggccggg accatgcggg ggacgcggct 100
 ggcgctcctg gcgctggtgc tggctgcctg cggagagctg gcgccggccc 150
 tgcgctgcta cgtctgtccg gagcccacag gagtgtcgga ctgtgtcacc 200
 atcgccacct gcaccaccaa cgaaaccatg tgcaagacca cactctactc 250
 ccgggagata gtgtaccctt tccaggggga ctccacggtg accaagtcct 300
 gtgccagcaa gtgtaagccc tcggatgtgg atggcatcgg ccagaccctg 350
 cccgtgtcct gctgcaatac tgagctgtgc aatgtagacg gggcgcccgc 400
 tctgaacagc ctccactgcg gggccctcac gctcctccca ctcttgagcc 450
 tccgactgta gagtccccgc ccacccccat ggccctatgc ggcccagccc 500
 cgaatgcctt gaagaagtgc cccctgcacc agggaaaaaa aaaaaaaaaa 550

<210> 454
 <211> 125
 <212> PRT
 <213> Homo sapiens

<400> 454

Met Arg Gly Thr Arg Leu Ala Leu Leu Ala Leu Val Leu Ala Ala
1 5 10 15

Cys Gly Glu Leu Ala Pro Ala Leu Arg Cys Tyr Val Cys Pro Glu
20 25 30

Pro Thr Gly Val Ser Asp Cys Val Thr Ile Ala Thr Cys Thr Thr
35 40 45

Asn Glu Thr Met Cys Lys Thr Thr Leu Tyr Ser Arg Glu Ile Val
50 55 60

Tyr Pro Phe Gln Gly Asp Ser Thr Val Thr Lys Ser Cys Ala Ser
65 70 75

Lys Cys Lys Pro Ser Asp Val Asp Gly Ile Gly Gln Thr Leu Pro
80 85 90

Val Ser Cys Cys Asn Thr Glu Leu Cys Asn Val Asp Gly Ala Pro
95 100 105

Ala Leu Asn Ser Leu His Cys Gly Ala Leu Thr Leu Leu Pro Leu
110 115 120

Leu Ser Leu Arg Leu
125

<210> 455

<211> 1518

<212> DNA

<213> Homo sapiens

<400> 455

ctgcagtcag gactctggga ccgcaggggg ctcccggacc ctgactctgc 50

agccgaaccg gcacggtttc gtggggaccc aggcttgcaa agtgacggtc 100

attttctctt tctttctccc tcttgagtcc ttctgagatg atggctcttg 150

gcgcagcggg agctaccggt gtctttgtcg cgatggtagc ggcggtcttc 200

ggcgccacc ctctgctggg agtgagcgcc accttgaact cggttctcaa 250

ttccaacgct atcaagaacc tgccccacc gctgggcggc gctgcggggc 300

accaggctc tgagtcagc gccgcgccg gaatcctgta cccgggcggg 350

aataagtacc agaccattga caactaccag ccgtaccgt gcgcagagga 400

cgaggagtgc ggcactgatg agtactgcgc tagtcccacc cgcggagggg 450

acgcaggcgt gcaaattctgt ctgcctgca ggaagcgccg aaaacgctgc 500

atgcgtcacg ctatgtgctg ccccggaat tactgcaaaa atggaatatg 550

tgtgtcttct gatcaaaatc atttcgagg agaaattgag gaaaccatca 600

ctgaaagctt tggtaatgat catagcacct tggatgggta ttccagaaga 650
 accaccttgt cttcaaaaat gtatcacacc aaaggacaag aaggttctgt 700
 ttgtctccgg tcatcagact gtgcctcagg attgtgttgt gctagacact 750
 tctgggtccaa gatctgtaaa cctgtcctga aagaagggtca agtgtgtacc 800
 aagcatagga gaaaaggctc tcatggacta gaaatattcc agcgttggtta 850
 ctgtggagaa ggtctgtctt gccggataca gaaagatcac catcaagcca 900
 gtaattcttc taggcttcac acttgtcaga gacactaaac cagctatcca 950
 aatgcagtga actcctttta tataatagat gctatgaaaa ccttttatga 1000
 ccttcatcaa ctcaatccta aggatataca agttctgtgg tttcagttaa 1050
 gcattccaat aacaccttcc aaaaacctgg agtgtaagag ctttgtttct 1100
 ttatggaact cccctgtgat tgcagtaaata tactgtattg taaattctca 1150
 gtgtggcact tacctgtaaa tgcaatgaaa cttttaatta tttttctaaa 1200
 ggtgctgcac tgcctatttt tcctcttggt atgtaaattt ttgtacacat 1250
 tgattgttat cttgactgac aaatattcta tattgaactg aagtaaataca 1300
 tttcagctta tagttcttaa aagcataacc ctttaccoca ttttaattcta 1350
 gagtctagaa cgcaaggatc tcttggaatg acaaatagata ggtacctaaa 1400
 atgtaacatg aaaatactag cttattttct gaaatgtact atcttaatgc 1450
 ttaaattata tttcccttta ggctgtgata gtttttgaaa taaaatttaa 1500
 catttaaaaa aaaaaaaaa 1518

<210> 456

<211> 266

<212> PRT

<213> Homo sapiens

<400> 456

Met	Met	Ala	Leu	Gly	Ala	Ala	Gly	Ala	Thr	Arg	Val	Phe	Val	Ala
1				5					10					15
Met	Val	Ala	Ala	Ala	Leu	Gly	Gly	His	Pro	Leu	Leu	Gly	Val	Ser
				20					25					30
Ala	Thr	Leu	Asn	Ser	Val	Leu	Asn	Ser	Asn	Ala	Ile	Lys	Asn	Leu
				35					40					45
Pro	Pro	Pro	Leu	Gly	Gly	Ala	Ala	Gly	His	Pro	Gly	Ser	Ala	Val
				50					55					60
Ser	Ala	Ala	Pro	Gly	Ile	Leu	Tyr	Pro	Gly	Gly	Asn	Lys	Tyr	Gln
				65					70					75

Thr	Ile	Asp	Asn	Tyr	Gln	Pro	Tyr	Pro	Cys	Ala	Glu	Asp	Glu	Glu	
				80					85					90	
Cys	Gly	Thr	Asp	Glu	Tyr	Cys	Ala	Ser	Pro	Thr	Arg	Gly	Gly	Asp	
				95					100					105	
Ala	Gly	Val	Gln	Ile	Cys	Leu	Ala	Cys	Arg	Lys	Arg	Arg	Lys	Arg	
				110					115					120	
Cys	Met	Arg	His	Ala	Met	Cys	Cys	Pro	Gly	Asn	Tyr	Cys	Lys	Asn	
				125					130					135	
Gly	Ile	Cys	Val	Ser	Ser	Asp	Gln	Asn	His	Phe	Arg	Gly	Glu	Ile	
				140					145					150	
Glu	Glu	Thr	Ile	Thr	Glu	Ser	Phe	Gly	Asn	Asp	His	Ser	Thr	Leu	
				155					160					165	
Asp	Gly	Tyr	Ser	Arg	Arg	Thr	Thr	Leu	Ser	Ser	Lys	Met	Tyr	His	
				170					175					180	
Thr	Lys	Gly	Gln	Glu	Gly	Ser	Val	Cys	Leu	Arg	Ser	Ser	Asp	Cys	
				185					190					195	
Ala	Ser	Gly	Leu	Cys	Cys	Ala	Arg	His	Phe	Trp	Ser	Lys	Ile	Cys	
				200					205					210	
Lys	Pro	Val	Leu	Lys	Glu	Gly	Gln	Val	Cys	Thr	Lys	His	Arg	Arg	
				215					220					225	
Lys	Gly	Ser	His	Gly	Leu	Glu	Ile	Phe	Gln	Arg	Cys	Tyr	Cys	Gly	
				230					235					240	
Glu	Gly	Leu	Ser	Cys	Arg	Ile	Gln	Lys	Asp	His	His	Gln	Ala	Ser	
				245					250					255	
Asn	Ser	Ser	Arg	Leu	His	Thr	Cys	Gln	Arg	His					
				260					265						

<210> 457
 <211> 638
 <212> DNA
 <213> Homo sapiens

 <220>
 <221> unsure
 <222> 30, 123, 133, 139, 180, 214, 259, 282, 308, 452, 467, 471, 473, 509, 556
 <223> unknown base

 <400> 457
 tgtgtttccc tgcagtcaga atttgggacn gcaggggttc ccggacctga 50
 ttttgcagcg gaacgggaag gttttgtggg acccaggttg aaatgacggt 100
 catttttttt tctttctcct tcnngagtcc ttntgagang atggtttttg 150
 gcgcagcggg agctaaccg gttttttgtn gcgatggtag cggcgggtttt 200

cggcggccac cttntgctgg gagtgagcgc caccttgaat cggttttcaa 250
 ttccaacgnt atcaagaacc tgccccacc gntgggcggc gctgcggggc 300
 acccaggntt tgcagtcagc gccgcgccg gaatcctgta cccgggcggg 350
 aataagtacc agaccattga caattaccag ccgtaccgt gcgcagagga 400
 cgaggagtgc ggcaactgat agtactgcgc tagtcccacc cgcgaggagg 450
 angcgggcgt gcaaanttgt ntngcctgca ggaagcgccg aaaacgctgc 500
 atgcgtcang ctatgtgctg ccccggaat tactgcaaaa atggaatatg 550
 tgtgtnttct gatcaaaatc atttccgagg agaaattgag gaaaccatca 600
 ctgaaagctt tggtaatgat catagcacct tggatggg 638

<210> 458

<211> 4040

<212> DNA

<213> Homo sapiens

<400> 458

gaggaaccta ccggtaccgg ccgcgcgctg gtagtcgccg gtgtggctgc 50
 acctcaccaa tcccgctgcgc cgcggctggg ccgtcggaga gtgcgtgtgc 100
 ttctctcctg cagcgggtgc ttgggctcgg ccaggcgggg tccgccgcca 150
 gggtttgagg atgggggagt agctacagga agcgaccccg cgatggcaag 200
 gtatatTTTT gtggaatgaa aaggaagtat tagaaatgag ctgaagacca 250
 ttcacagatt aatatttttg gggacagatt tgtgatgctt gattcacct 300
 tgaagtaatg tagacagaag ttctcaaatt tgcatattac atcaactgga 350
 accagcagtg aatcttaatg ttcacttaaa tcagaacttg cataagaaag 400
 agaatgggag tctgggttaa taaagatgac tatatcagag acttgaaaag 450
 gatcattctc tgttttctga tagtgtatat ggccatttta gtgggcacag 500
 atcaggattt ttacagttta ctgggagtgt ccaaaactgc aagcagtaga 550
 gaaataagac aagctttcaa gaaattggca ttgaagttac atcctgataa 600
 aaaccogaat aacccaaatg cacatggcga ttttttaaaa ataaatagag 650
 catatgaagt actcaaagat gaagatctac ggaaaaagta tgacaaatat 700
 ggagaaaagg gacttgagga taatcaaggt ggccagtatg aaagctggaa 750
 ctattatcgt tatgattttg gtatttatga tgatgatcct gaaatcataa 800
 cattggaaag aagagaattt gatgctgctg ttaattctgg agaactgtgg 850

ctttcagtga aaaagttcta caagggaaaa atcattgggt gattgatttc 2350
 tatgctcctt ggtgtggacc ttgccagaat tttgctccag aatttgagct 2400
 cttggctagg atgattaaag gaaaagtga agctggaaaa gtagactgtc 2450
 aggcttatgc tcagacatgc cagaaagctg ggatcagggc ctatccaact 2500
 gttaagtttt atttctacga aagagcaaag agaaattttc aagaagagca 2550
 gataaatacc agagatgcaa aagcaatcgc tgccttaata agtgaaaaat 2600
 tggaaactct ccgaaatcaa ggcaagagga ataaggatga actttgataa 2650
 tgttgaagat gaagaaaaag tttaaaagaa attctgacag atgacatcag 2700
 aagacaccta ttagaatgt tacatttatg atgggaatga atgaacatta 2750
 tcttagactt gcagttgtac tgccagaatt atctacagca ctggtgtaaa 2800
 agaagggctt gcaaactttt tctgtaaagg gccggtttat aaatatttta 2850
 gactttgcag gctataatat atgggttcaca catgagaaca agaataagagt 2900
 catcatgtat tctttgttat ttgcttttaa caacctttaa aaaatattaa 2950
 aacgattctt agctcagagc catacaaaaag taggctggat tcagtccatg 3000
 gaccatagat tgctgtcccc ctgcacggac ttataatggt tcaggtggct 3050
 ggcttgaaca tgagtctgct gtgctatcta cataaatgtc taagttgtat 3100
 aaagtccact ttcccttcac gttttttggc tgacctgaaa agaggtaact 3150
 tagtttttgg tcacttgttc tcctaaaaat gctatcccta accatatatt 3200
 tatatttcgt tttaaaaaca cccatgatgt ggcacagtaa acaaaccctg 3250
 ttatgctgta ttattatgag gagattcttc attgttttct ttccttctca 3300
 aaggttgaag aaatgctttt aatttttcac agccgagaaa cagtgcagca 3350
 gtatatgtgc acacagtaag tacacaaatt tgagcaacag taagtgcaca 3400
 aattctgtag tttgctgtat catccaggaa aacctgaggg aaaaaatta 3450
 tagcaattaa ctgggcattg tagagtatcc taaatatggt atcaagtatt 3500
 tagagttcta tattttaaag atatatgtgt tcatgtattt tctgaaattg 3550
 ctttcataga aattttccca ctgatagttg atttttgagg catctaatat 3600
 ttacatattt gccttctgaa ctttgttttg acctgtatcc tttatttaca 3650
 ttgggttttt ctttcatagt tttggttttt cactcctgtc cagtctattt 3700
 attattcaaa taggaaaaat tactttacag gttgtttttac tgtagcttat 3750

aatgatactg tagttattcc agttactagt ttactgtcag agggctgcct 3800
 ttttcagata aatattgaca taataactga agttattttt ataagaaaat 3850
 caagtatata aatctaggaa agggatcttc tagtttctgt gttgtttaga 3900
 ctcaaagaat cacaaatttg tcagtaacat gtagttgttt agttataatt 3950
 cagagtgtac agaatggtaa aaattccaat cagtcaaaaag aggtcaatga 4000
 attaaaaggc ttgcaacttt ttcaaaaaaa aaaaaaaaaa 4040

<210> 459

<211> 747

<212> PRT

<213> Homo sapiens

<400> 459

Met	Gly	Val	Trp	Leu	Asn	Lys	Asp	Asp	Tyr	Ile	Arg	Asp	Leu	Lys
1				5					10					15
Arg	Ile	Ile	Leu	Cys	Phe	Leu	Ile	Val	Tyr	Met	Ala	Ile	Leu	Val
				20					25					30
Gly	Thr	Asp	Gln	Asp	Phe	Tyr	Ser	Leu	Leu	Gly	Val	Ser	Lys	Thr
				35					40					45
Ala	Ser	Ser	Arg	Glu	Ile	Arg	Gln	Ala	Phe	Lys	Lys	Leu	Ala	Leu
				50					55					60
Lys	Leu	His	Pro	Asp	Lys	Asn	Pro	Asn	Asn	Pro	Asn	Ala	His	Gly
				65					70					75
Asp	Phe	Leu	Lys	Ile	Asn	Arg	Ala	Tyr	Glu	Val	Leu	Lys	Asp	Glu
				80					85					90
Asp	Leu	Arg	Lys	Lys	Tyr	Asp	Lys	Tyr	Gly	Glu	Lys	Gly	Leu	Glu
				95					100					105
Asp	Asn	Gln	Gly	Gly	Gln	Tyr	Glu	Ser	Trp	Asn	Tyr	Tyr	Arg	Tyr
				110					115					120
Asp	Phe	Gly	Ile	Tyr	Asp	Asp	Asp	Pro	Glu	Ile	Ile	Thr	Leu	Glu
				125					130					135
Arg	Arg	Glu	Phe	Asp	Ala	Ala	Val	Asn	Ser	Gly	Glu	Leu	Trp	Phe
				140					145					150
Val	Asn	Phe	Tyr	Ser	Pro	Gly	Cys	Ser	His	Cys	His	Asp	Leu	Ala
				155					160					165
Pro	Thr	Trp	Arg	Asp	Phe	Ala	Lys	Glu	Val	Asp	Gly	Leu	Leu	Arg
				170					175					180
Ile	Gly	Ala	Val	Asn	Cys	Gly	Asp	Asp	Arg	Met	Leu	Cys	Arg	Met
				185					190					195
Lys	Gly	Val	Asn	Ser	Tyr	Pro	Ser	Leu	Phe	Ile	Phe	Arg	Ser	Gly

Ser	Ala	Glu	Gln	Ile	Leu	Glu	Phe	Ile	Glu	Asp	Leu	Met	Asn	Pro	500	505	510
Ser	Val	Val	Ser	Leu	Thr	Pro	Thr	Thr	Phe	Asn	Glu	Leu	Val	Thr	515	520	525
Gln	Arg	Lys	His	Asn	Glu	Val	Trp	Met	Val	Asp	Phe	Tyr	Ser	Pro	530	535	540
Trp	Cys	His	Pro	Cys	Gln	Val	Leu	Met	Pro	Glu	Trp	Lys	Arg	Met	545	550	555
Ala	Arg	Thr	Leu	Thr	Gly	Leu	Ile	Asn	Val	Gly	Ser	Ile	Asp	Cys	560	565	570
Gln	Gln	Tyr	His	Ser	Phe	Cys	Ala	Gln	Glu	Asn	Val	Gln	Arg	Tyr	575	580	585
Pro	Glu	Ile	Arg	Phe	Phe	Pro	Pro	Lys	Ser	Asn	Lys	Ala	Tyr	Gln	590	595	600
Tyr	His	Ser	Tyr	Asn	Gly	Trp	Asn	Arg	Asp	Ala	Tyr	Ser	Leu	Arg	605	610	615
Ile	Trp	Gly	Leu	Gly	Phe	Leu	Pro	Gln	Val	Ser	Thr	Asp	Leu	Thr	620	625	630
Pro	Gln	Thr	Phe	Ser	Glu	Lys	Val	Leu	Gln	Gly	Lys	Asn	His	Trp	635	640	645
Val	Ile	Asp	Phe	Tyr	Ala	Pro	Trp	Cys	Gly	Pro	Cys	Gln	Asn	Phe	650	655	660
Ala	Pro	Glu	Phe	Glu	Leu	Leu	Ala	Arg	Met	Ile	Lys	Gly	Lys	Val	665	670	675
Lys	Ala	Gly	Lys	Val	Asp	Cys	Gln	Ala	Tyr	Ala	Gln	Thr	Cys	Gln	680	685	690
Lys	Ala	Gly	Ile	Arg	Ala	Tyr	Pro	Thr	Val	Lys	Phe	Tyr	Phe	Tyr	695	700	705
Glu	Arg	Ala	Lys	Arg	Asn	Phe	Gln	Glu	Glu	Gln	Ile	Asn	Thr	Arg	710	715	720
Asp	Ala	Lys	Ala	Ile	Ala	Ala	Leu	Ile	Ser	Glu	Lys	Leu	Glu	Thr	725	730	735
Leu	Arg	Asn	Gln	Gly	Lys	Arg	Asn	Lys	Asp	Glu	Leu				740	745	

<210> 460

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 460
actccccagg ctgttcacac tgcc 24

<210> 461

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 461

gatcagccag ccaataccag cagc 24

<210> 462

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 462

gtggtgatga tagaatgctt tgccgaatga aaggagtcaa cagctatccc 50

<210> 463

<211> 1818

<212> DNA

<213> Homo sapiens

<400> 463

agacagtacc tcctccctag gactacacaa ggactgaacc agaaggaaga 50

ggacagagca aagccatgaa catcatccta gaaatccttc tgcttctgat 100

caccatcatc tactcctact tggagtcggt ggtgaagttt ttcattcctc 150

agaggagaaa atctgtggct ggggagattg ttctcattac tggagctggg 200

catggaatag gcaggcagac tacttatgaa ttgcaaaac gacagagcat 250

attggttctg tgggatatta ataagcgcg tgtggaggaa actgcagctg 300

agtgccgaaa actaggcgtc actgcgcatg cgtatgtggt agactgcagc 350

aacagagaag agatctatcg ctctctaaat caggtgaaga aagaagtggg 400

tgatgtaaca atcgtggtga ataatgctgg gacagtatat ccagccgata 450

ttctcagcac caaggatgaa gagattacca agacatttga ggtcaacatc 500

ctaggacatt tttggatcac aaaagcactt cttccatcga tgatggagag 550

aaatcatggc cacatcgtca cagtggcttc agtgtgcggc cacgaaggga 600

ttccttacct catcccatat tgttcagca aatttgccgc tgttggcttt 650

cacagaggtc tgacatcaga acttcaggcc ttgggaaaaa ctggtatcaa 700

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200

aacctcatgt ctctgcccag tttttgtgaa tactgggttc accaaaaatc 750
 caagcacaag attatggcct gtattggaga cagatgaagt cgtaagaagt 800
 ctgatagatg gaatacttac caataagaaa atgatttttg ttccatcgta 850
 tatcaatatc tttctgagac tacagaagtt tcttcctgaa cgcgcctcag 900
 cgatttttaa tcgtatgcag aatattcaat ttgaagcagt ggttggccac 950
 aaaatcaaaa tgaaatgaat aaataagctc cagccagaga tgtatgcatg 1000
 ataatgatat gaatagtttc gaatcaatgc tgcaaagctt tatttcacat 1050
 tttttcagtc ctgataatat taaaaacatt ggtttggcac tagcagcagt 1100
 caaacgaaca agattaatta cctgtcttcc tgtttctcaa gaatatttac 1150
 gtagtttttc ataggtctgt ttttcctttc atgcctctta aaaacttctg 1200
 tgcttacata aacatactta aaaggttttc tttaagatat tttatttttc 1250
 cattttaaagg tggacaaaag ctacctccct aaaagtaa at acaaagagaa 1300
 cttattttaca cagggaaggt ttaagactgt tcaagtagca ttccaatctg 1350
 tagccatgcc acagaatatc aacaagaaca cagaatgagt gcacagctaa 1400
 gagatcaagt ttcagcaggc agctttatct caacctggac atattttaag 1450
 attcagcatt tgaaagattt ccctagcctc ttcttttttc attagcccaa 1500
 aacggtgcaa ctctattctg gactttatta cttgattctg tcttctgtat 1550
 aactctgaag tccaccaaaa gtggaccctc tatatttctc ccctttttat 1600
 agtcttataa gatacattat gaaaggtgac cgactctatt ttaaattctca 1650
 gaattttaag ttctagcccc atgataacct ttttctttgt aatttatgct 1700
 ttcatatatc cttggtccca gagatgttta gacaatttta ggctcaaaaa 1750
 ttaaagctaa cacaggaaaa ggaactgtac tggctattac ataagaaaca 1800
 atggacccaa gagaagaa 1818

<210> 464
 <211> 300
 <212> PRT
 <213> Homo sapiens

<400> 464
 Met Asn Ile Ile Leu Glu Ile Leu Leu Leu Ile Thr Ile Ile
 1 5 10 15
 Tyr Ser Tyr Leu Glu Ser Leu Val Lys Phe Phe Ile Pro Gln Arg
 20 25 30

<400> 465

cggcggcggc tgcgggcgcg aggtgagggg cgcgaggtga ggggcgcgag 50
gttcccagca ggatgccccg gctctgcagg aagctgaagt gagaggcccc 100
gagagggccc agcccccccg gggcaggatg accaaggccc ggctgttccg 150
gctgtggctg gtgctggggt cgggtgttcat gatcctgctg atcatcgtgt 200
actgggacag cgcaggcgcc ggcacttct acttgcacac gtccttctct 250
agggcgcaca cggggccgcc gctgcccacg cccgggccgg acagggacag 300
ggagctcacg gccgactccg atgtcgacga gtttctggac aagtttctca 350
gtgctggcgt gaagcagagc gaccttccca gaaaggagac ggagcagccg 400
cctgcgcggg ggagcatgga ggagagcgtg agaggctacg actggtcccc 450
gcgcgacgcc cggcgcagcc cagaccaggg ccggcagcag gcggagcgga 500
ggagcgtgct gcggggcttc tgcgccaact ccagcctggc cttccccacc 550
aaggagcgcg cattcgacga catccccaac tcggagctga gccacctgat 600
cgtggacgac cggcacgggg ccatctactg ctacgtgccc aaggtggcct 650
gcaccaactg gaagcgcgtg atgatcgtgc tgagcggaag cctgctgcac 700
cgcggtgcgc cctaccgcga cccgctgcgc atcccgcgcg agcacgtgca 750
caacgccagc gcgcacctga ccttcaacaa gttctggcgc cgctacggga 800
agctctcccg ccacctcatg aaggtaagc tcaagaagta caccaagttc 850
ctcttcgtgc gcgaccctt cgtgcgcctg atctccgcct tccgcagcaa 900
gttcgagctg gagaacgagg agttctaccg caagtctgcc gtgcccattg 950
tgcggtgta cgccaaccac accagcctgc ccgcctcggc gcgcgaggcc 1000
ttccgcgctg gcctcaaggt gtccttcgcc aacttcatcc agtacctgct 1050
ggaccgcac acggagaagc tggcgccctt caacgagcac tggcggcagg 1100
tgtaccgct ctgccacccg tgccagatcg actacgactt cgtggggaag 1150
ctggagactc tggacgagga cgccgcgcag ctgctgcagc tactccaggt 1200
ggaccggcag ctccgcttcc cccgagcta ccggaacagg accgccagca 1250
gctgggagga ggactggttc gccaaatcc ccctggcctg gaggcagcag 1300
ctgtataaac tctacgaggc cgactttgtt ctcttcggct accccaagcc 1350
cgaaaacctc ctccgagact gaaagctttc gcgttgcttt ttctcgcgtg 1400
cctggaacct gacgcacgcg cactccagtt tttttatgac ctacgatttt 1450

gcaatctggg cttcttgttc actccactgc ctctatccat tgagtactgt 1500

atogatattg ttttttaaga ttaatatatt tcaggtatatt aatacga 1547

<210> 466

<211> 414

<212> PRT

<213> Homo sapiens

<400> 466

Met Thr Lys Ala Arg Leu Phe Arg Leu Trp Leu Val Leu Gly Ser
1 5 10 15

Val Phe Met Ile Leu Leu Ile Ile Val Tyr Trp Asp Ser Ala Gly
20 25 30

Ala Ala His Phe Tyr Leu His Thr Ser Phe Ser Arg Pro His Thr
35 40 45

Gly Pro Pro Leu Pro Thr Pro Gly Pro Asp Arg Asp Arg Glu Leu
50 55 60

Thr Ala Asp Ser Asp Val Asp Glu Phe Leu Asp Lys Phe Leu Ser
65 70 75

Ala Gly Val Lys Gln Ser Asp Leu Pro Arg Lys Glu Thr Glu Gln
80 85 90

Pro Pro Ala Pro Gly Ser Met Glu Glu Ser Val Arg Gly Tyr Asp
95 100 105

Trp Ser Pro Arg Asp Ala Arg Arg Ser Pro Asp Gln Gly Arg Gln
110 115 120

Gln Ala Glu Arg Arg Ser Val Leu Arg Gly Phe Cys Ala Asn Ser
125 130 135

Ser Leu Ala Phe Pro Thr Lys Glu Arg Ala Phe Asp Asp Ile Pro
140 145 150

Asn Ser Glu Leu Ser His Leu Ile Val Asp Asp Arg His Gly Ala
155 160 165

Ile Tyr Cys Tyr Val Pro Lys Val Ala Cys Thr Asn Trp Lys Arg
170 175 180

Val Met Ile Val Leu Ser Gly Ser Leu Leu His Arg Gly Ala Pro
185 190 195

Tyr Arg Asp Pro Leu Arg Ile Pro Arg Glu His Val His Asn Ala
200 205 210

Ser Ala His Leu Thr Phe Asn Lys Phe Trp Arg Arg Tyr Gly Lys
215 220 225

Leu Ser Arg His Leu Met Lys Val Lys Leu Lys Lys Tyr Thr Lys
230 235 240

Phe	Leu	Phe	Val	Arg	Asp	Pro	Phe	Val	Arg	Leu	Ile	Ser	Ala	Phe	
				245					250					255	
Arg	Ser	Lys	Phe	Glu	Leu	Glu	Asn	Glu	Glu	Phe	Tyr	Arg	Lys	Phe	
				260					265					270	
Ala	Val	Pro	Met	Leu	Arg	Leu	Tyr	Ala	Asn	His	Thr	Ser	Leu	Pro	
				275					280					285	
Ala	Ser	Ala	Arg	Glu	Ala	Phe	Arg	Ala	Gly	Leu	Lys	Val	Ser	Phe	
				290					295					300	
Ala	Asn	Phe	Ile	Gln	Tyr	Leu	Leu	Asp	Pro	His	Thr	Glu	Lys	Leu	
				305					310					315	
Ala	Pro	Phe	Asn	Glu	His	Trp	Arg	Gln	Val	Tyr	Arg	Leu	Cys	His	
				320					325					330	
Pro	Cys	Gln	Ile	Asp	Tyr	Asp	Phe	Val	Gly	Lys	Leu	Glu	Thr	Leu	
				335					340					345	
Asp	Glu	Asp	Ala	Ala	Gln	Leu	Leu	Gln	Leu	Leu	Gln	Val	Asp	Arg	
				350					355					360	
Gln	Leu	Arg	Phe	Pro	Pro	Ser	Tyr	Arg	Asn	Arg	Thr	Ala	Ser	Ser	
				365					370					375	
Trp	Glu	Glu	Asp	Trp	Phe	Ala	Lys	Ile	Pro	Leu	Ala	Trp	Arg	Gln	
				380					385					390	
Gln	Leu	Tyr	Lys	Leu	Tyr	Glu	Ala	Asp	Phe	Val	Leu	Phe	Gly	Tyr	
				395					400					405	
Pro	Lys	Pro	Glu	Asn	Leu	Leu	Arg	Asp							
				410											

<210> 467
 <211> 1071
 <212> DNA
 <213> Homo sapiens

<400> 467
 tcgggcccaga attcggcacg aggcggcacg agggcgacgg cctcacgggg 50
 ctttgaggt gaaagaggcc cagagtagag agagagagag accgacgtac 100
 acgggatggc tacgggaacg cgctatgccg ggaaggtggt ggtcgtgacc 150
 gggggcgggc gcggcatcgg agctgggatc gtgcgcgcct tcgtgaacag 200
 cggggcccga gtggttatct gcgacaagga tgagtctggg ggccggggccc 250
 tggagcagga gctccctgga gctgtcttta tcctctgtga tgtgactcag 300
 gaagatgatg tgaagaccct ggtttctgag accatccgcc gatttggccg 350
 cctggattgt gttgtcaaca acgtggcca ccaccaccc ccacagaggc 400

ctgaggagac ctctgcccag ggattccgcc agctgctgga gctgaaccta 450
 ctggggacgt acacottgac caagctcgcc ctcccctacc tgcggaagag 500
 tcaagggaat gtcataca tctccagcct ggtggggggca atcggccagg 550
 cccaggcagt tccctatgtg gccaccaagg gggcagtaac agccatgacc 600
 aaagcttttg ccctggatga aagtccatat ggtgtccgag tcaactgtat 650
 ctccccagga aacatctgga ccccgtgtg ggaggagctg gcagccttaa 700
 tgccagaccc tagggccaca atccgagagg gcatgctggc ccagccactg 750
 ggccgcatgg gccagccgc tgaggtcggg gctgcggcag tgttcctggc 800
 ctccgaagcc aacttctgca cgggcattga actgctcgtg acgggggggtg 850
 cagagctggg gtacgggtgc aaggccagtc ggagcacccc cgtggacgcc 900
 cccgatatcc cttcctgatt tctctcattt ctacttgggg ccccttcct 950
 aggactctcc caccctaaac tccaacctgt atcagatgca gcccccaagc 1000
 ccttagactc taagcccagt tagcaagggt cggggtcacc ctgcagggttc 1050
 ccataaaaac gatttgcagc c 1071

<210> 468

<211> 270

<212> PRT

<213> Homo sapiens

<400> 468

Met	Ala	Thr	Gly	Thr	Arg	Tyr	Ala	Gly	Lys	Val	Val	Val	Val	Thr
1				5					10					15

Gly	Gly	Gly	Arg	Gly	Ile	Gly	Ala	Gly	Ile	Val	Arg	Ala	Phe	Val
				20					25					30

Asn	Ser	Gly	Ala	Arg	Val	Val	Ile	Cys	Asp	Lys	Asp	Glu	Ser	Gly
				35					40					45

Gly	Arg	Ala	Leu	Glu	Gln	Glu	Leu	Pro	Gly	Ala	Val	Phe	Ile	Leu
				50					55					60

Cys	Asp	Val	Thr	Gln	Glu	Asp	Asp	Val	Lys	Thr	Leu	Val	Ser	Glu
				65					70					75

Thr	Ile	Arg	Arg	Phe	Gly	Arg	Leu	Asp	Cys	Val	Val	Asn	Asn	Ala
				80					85					90

Gly	His	His	Pro	Pro	Pro	Gln	Arg	Pro	Glu	Glu	Thr	Ser	Ala	Gln
				95					100					105

Gly	Phe	Arg	Gln	Leu	Leu	Glu	Leu	Asn	Leu	Leu	Gly	Thr	Tyr	Thr
				110					115					120

Leu	Thr	Lys	Leu	Ala	Leu	Pro	Tyr	Leu	Arg	Lys	Ser	Gln	Gly	Asn	
				125					130					135	
Val	Ile	Asn	Ile	Ser	Ser	Leu	Val	Gly	Ala	Ile	Gly	Gln	Ala	Gln	
				140					145					150	
Ala	Val	Pro	Tyr	Val	Ala	Thr	Lys	Gly	Ala	Val	Thr	Ala	Met	Thr	
				155					160					165	
Lys	Ala	Leu	Ala	Leu	Asp	Glu	Ser	Pro	Tyr	Gly	Val	Arg	Val	Asn	
				170					175					180	
Cys	Ile	Ser	Pro	Gly	Asn	Ile	Trp	Thr	Pro	Leu	Trp	Glu	Glu	Leu	
				185					190					195	
Ala	Ala	Leu	Met	Pro	Asp	Pro	Arg	Ala	Thr	Ile	Arg	Glu	Gly	Met	
				200					205					210	
Leu	Ala	Gln	Pro	Leu	Gly	Arg	Met	Gly	Gln	Pro	Ala	Glu	Val	Gly	
				215					220					225	
Ala	Ala	Ala	Val	Phe	Leu	Ala	Ser	Glu	Ala	Asn	Phe	Cys	Thr	Gly	
				230					235					240	
Ile	Glu	Leu	Leu	Val	Thr	Gly	Gly	Ala	Glu	Leu	Gly	Tyr	Gly	Cys	
				245					250					255	
Lys	Ala	Ser	Arg	Ser	Thr	Pro	Val	Asp	Ala	Pro	Asp	Ile	Pro	Ser	
				260					265					270	

<210> 469

<211> 687

<212> DNA

<213> Homo sapiens

<400> 469

```

aggcgggcag cagctgcagg ctgacctgac agcttggcgg aatggactgg 50
cctcacaacc tgctgtttct tcttaccatt tccatcttcc tggggctggg 100
ccagcccagg agcccca aaa gcaagaggaa ggggcaaggg cggcctgggc 150
ccctggcccc tggccctcac caggtgccac tggacctggt gtcacggatg 200
aaaccgtatg cccgcatgga ggagtatgag aggaacatcg aggagatggt 250
ggcccagctg aggaacagct cagagctggc ccagagaaag tgtgaggtca 300
acttcagct gtggatgtcc aacaagagga gcctgtctcc ctggggctac 350
agcatcaacc acgacccag ccgtatcccc gtggacctgc cggaggcacg 400
gtgcctgtgt ctgggctgtg tgaacccctt caccatgcag gaggaccgca 450
gcatggtgag cgtgccggtg ttcagccagg ttcctgtgcg ccgccgctc 500
tgcccgccac cgccccgcac agggccttgc cgccagcgcg cagtcatgga 550

```

gaccatcgct gtgggctgca cctgcatctt ctgaatcacc tggcccagaa 600
gccaggccag cagcccgaga ccatactcct tgcacctttg tgccaagaaa 650
ggcctatgaa aagtaaacac tgacttttga aagcaag 687

<210> 470
<211> 180
<212> PRT
<213> Homo sapiens

<400> 470
Met Asp Trp Pro His Asn Leu Leu Phe Leu Leu Thr Ile Ser Ile
1 5 10 15
Phe Leu Gly Leu Gly Gln Pro Arg Ser Pro Lys Ser Lys Arg Lys
20 25 30
Gly Gln Gly Arg Pro Gly Pro Leu Ala Pro Gly Pro His Gln Val
35 40 45
Pro Leu Asp Leu Val Ser Arg Met Lys Pro Tyr Ala Arg Met Glu
50 55 60
Glu Tyr Glu Arg Asn Ile Glu Glu Met Val Ala Gln Leu Arg Asn
65 70 75
Ser Ser Glu Leu Ala Gln Arg Lys Cys Glu Val Asn Leu Gln Leu
80 85 90
Trp Met Ser Asn Lys Arg Ser Leu Ser Pro Trp Gly Tyr Ser Ile
95 100 105
Asn His Asp Pro Ser Arg Ile Pro Val Asp Leu Pro Glu Ala Arg
110 115 120
Cys Leu Cys Leu Gly Cys Val Asn Pro Phe Thr Met Gln Glu Asp
125 130 135
Arg Ser Met Val Ser Val Pro Val Phe Ser Gln Val Pro Val Arg
140 145 150
Arg Arg Leu Cys Pro Pro Pro Pro Arg Thr Gly Pro Cys Arg Gln
155 160 165
Arg Ala Val Met Glu Thr Ile Ala Val Gly Cys Thr Cys Ile Phe
170 175 180

<210> 471
<211> 2368
<212> DNA
<213> Homo sapiens

<400> 471
gcgcccgcag gcgtaggcgg ggtggccctt gcgtctcccg cttccttgaa 50
aaacccggcg ggcgagcgag gctgcgggcc ggccgctgcc cttccccaca 100

cctgagcatc cccaaagtgt aacgtagaag ccttgcatcc ttttcttgtg 1600
 taaagtatatt atttttgtca aattgcagga aacatcaggc accacagtgc 1650
 atgaaaaatc tttcacagct agaaattgaa agggccttgg gtatagagag 1700
 cagctcagaa gtcatoccag ccctctgaat ctctgtgct atgttttatt 1750
 tcttaccttt aatttttcca gcattttcac catgggcatt caggctctcc 1800
 acactcttca ctattatctc ttggtcagag gactccaata acagccagggt 1850
 ttacatgaac tgtgtttgtt cattctgacc taagggggtt agataatcag 1900
 taaccataac ccctgaagct gtgactgcca aacatctcaa atgaaatgtt 1950
 gtggccatca gagactcaaa aggaagtaag gattttacaa gacagattaa 2000
 aaaaaaattg ttttgtccaa aatatagttg ttgttgattt ttttttaagt 2050
 tttctaagca atatttttca agccagaagt cctctaagtc ttgccagtac 2100
 aaggtagtct tgtgaagaaa agttgaatac tgttttgttt tcatctcaag 2150
 gggttocctg ggtcttgaac tactttaata ataactaaaa aaccacttct 2200
 gattttcctt cagtgatgtg cttttggtga aagaattaat gaactccagt 2250
 acctgaaagt gaaagatttg attttgtttc catcttctgt aatcttccaa 2300
 agaattatat ctttgtaaat ctctcaatac tcaatctact gtaagtaccc 2350
 agggaggcta atttcttt 2368

<210> 472

<211> 349

<212> PRT

<213> Homo sapiens

<400> 472

Met	Ala	Gly	Gly	Arg	Cys	Gly	Pro	Gln	Leu	Thr	Ala	Leu	Leu	Ala
1				5					10					15
Ala	Trp	Ile	Ala	Ala	Val	Ala	Ala	Thr	Ala	Gly	Pro	Glu	Glu	Ala
			20					25						30
Ala	Leu	Pro	Pro	Glu	Gln	Ser	Arg	Val	Gln	Pro	Met	Thr	Ala	Ser
			35					40						45
Asn	Trp	Thr	Leu	Val	Met	Glu	Gly	Glu	Trp	Met	Leu	Lys	Phe	Tyr
			50					55						60
Ala	Pro	Trp	Cys	Pro	Ser	Cys	Gln	Gln	Thr	Asp	Ser	Glu	Trp	Glu
			65					70						75
Ala	Phe	Ala	Lys	Asn	Gly	Glu	Ile	Leu	Gln	Ile	Ser	Val	Gly	Lys
			80					85						90

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500

Val	Asp	Val	Ile	Gln	Glu	Pro	Gly	Leu	Ser	Gly	Arg	Phe	Phe	Val	95	100	105
Thr	Thr	Leu	Pro	Ala	Phe	Phe	His	Ala	Lys	Asp	Gly	Ile	Phe	Arg	110	115	120
Arg	Tyr	Arg	Gly	Pro	Gly	Ile	Phe	Glu	Asp	Leu	Gln	Asn	Tyr	Ile	125	130	135
Leu	Glu	Lys	Lys	Trp	Gln	Ser	Val	Glu	Pro	Leu	Thr	Gly	Trp	Lys	140	145	150
Ser	Pro	Ala	Ser	Leu	Thr	Met	Ser	Gly	Met	Ala	Gly	Leu	Phe	Ser	155	160	165
Ile	Ser	Gly	Lys	Ile	Trp	His	Leu	His	Asn	Tyr	Phe	Thr	Val	Thr	170	175	180
Leu	Gly	Ile	Pro	Ala	Trp	Cys	Ser	Tyr	Val	Phe	Phe	Val	Ile	Ala	185	190	195
Thr	Leu	Val	Phe	Gly	Leu	Phe	Met	Gly	Leu	Val	Leu	Val	Val	Ile	200	205	210
Ser	Glu	Cys	Phe	Tyr	Val	Pro	Leu	Pro	Arg	His	Leu	Ser	Glu	Arg	215	220	225
Ser	Glu	Gln	Asn	Arg	Arg	Ser	Glu	Glu	Ala	His	Arg	Ala	Glu	Gln	230	235	240
Leu	Gln	Asp	Ala	Glu	Glu	Glu	Lys	Asp	Asp	Ser	Asn	Glu	Glu	Glu	245	250	255
Asn	Lys	Asp	Ser	Leu	Val	Asp	Asp	Glu	Glu	Glu	Lys	Glu	Asp	Leu	260	265	270
Gly	Asp	Glu	Asp	Glu	Ala	Glu	Glu	Glu	Glu	Glu	Glu	Asp	Asn	Leu	275	280	285
Ala	Ala	Gly	Val	Asp	Glu	Glu	Arg	Ser	Glu	Ala	Asn	Asp	Gln	Gly	290	295	300
Pro	Pro	Gly	Glu	Asp	Gly	Val	Thr	Arg	Glu	Glu	Val	Glu	Pro	Glu	305	310	315
Glu	Ala	Glu	Glu	Gly	Ile	Ser	Glu	Gln	Pro	Cys	Pro	Ala	Asp	Thr	320	325	330
Glu	Val	Val	Glu	Asp	Ser	Leu	Arg	Gln	Arg	Lys	Ser	Gln	His	Ala	335	340	345
Asp Lys Gly Leu																	

<210> 473
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 473
gtccagccca tgaccgcctc caac 24

<210> 474
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 474
ctctcctcat ccacaccagc agcc 24

<210> 475
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 475
gtggatgctg aaattttacg ccccatgggtg tccatcctgc cagc 44

<210> 476
<211> 2478
<212> DNA
<213> Homo sapiens

<400> 476
atctggttga actacttaag cttaatttgt taaactccgg taagtaccta 50
gcccacatga ttgactcag agatttcttt ttgtccacag acagtcatct 100
caggggacaga aagaaaagag ctcccaaattg ctatatctat tcaggggctc 150
tcaagaacaa tggaatatca tcctgattta gaaaatttgg atgaagatgg 200
atatactcaa ttacacttcg actctcaaag caataccagg atagctgttg 250
tttcagagaa aggatcgtgt gctgcatctc ctcttggtcg cctcattgct 300
gtaatttttg gaatcctatg cttggtaata ctggtgatag ctgtggctct 350
gggtaccatg ggggttcttt ccagcccttg tcctcctaata tggattatat 400
atgagaagag ctgttatcta ttcagcatgt cactaaattc ctgggatgga 450
agtaaaagac aatgctggca actgggctct aatctcctaa agatagacag 500
ctcaaatgaa ttgggattta tagtaaaaca agtgtcttcc caacctgata 550
attcattttg gataggcctt tctcggtccc agactgaggt accatggctc 600

tgggaggatg gatcaacatt ctcttctaac ttatttcaga tcagaaccac 650
 agctacccaa gaaaacccat ctccaaattg tgtatggatt cacgtgtcag 700
 tcatttatga ccaactgtgt agtgtgccct catatagtat ttgtgagaag 750
 aagttttcaa tgtaagagga aggggtggaga aggagagaga aatatgtgag 800
 gtagtaagga ggacagaaaa cagaacagaa aagagtaaca gctgagggtca 850
 agataaatgc agaaaatgtt tagagagctt ggccaactgt aatcttaacc 900
 aagaaattga agggagaggc tgtgatttct gtatttgtcg acctacaggt 950
 aggctagtat tatttttcta gttagtagat ccctagacat ggaatcaggg 1000
 cagccaagct tgagttttta ttttttattt atttattttt ttgagatagg 1050
 gtctcacttt gttaccacagg ctggagtgcg gtggcacaat ctcgactcac 1100
 tgcagctatc tctcgctca gccctcaag tagctgggac tacaggtgca 1150
 tgccaccatg ccaggctaata ttttggtggt ttttgtagag actgggtttt 1200
 gccatgttga ccaagctggt ctctaactcc tgggcttaag tgatctgccc 1250
 gccttggcct cccaaagtgc tgggattaca gatgtgagcc accacacctg 1300
 gcccgaagct tgaattttca ttctgccatt gacttggcat ttaccttggg 1350
 taagccataa gcgaatctta atttctggct ctatcagagt tgtttcatgc 1400
 tcaacaatgc cattgaagtg cacggtgtgt tgccacgatt tgaccctcaa 1450
 cttctagcag tatatcagtt atgaactgag ggtgaaatat atttctgaat 1500
 agctaaatga agaaatggga aaaaatcttc accacagtca gagcaatttt 1550
 attattttca tcagtatgat cataattatg attatcatct tagtaaaaag 1600
 caggaactcc tactttttct ttatcaatta aatagctcag agagtacatc 1650
 tgccatatct ctaatagaat cttttttttt tttttttttt tttgagacag 1700
 agtttcgctc ttgttgccca ggctggagtg caacggcacg atctcggctc 1750
 accgcaacct ccgccccctg ggttcaagca attctcctgc ctcagcctcc 1800
 caagtagctg ggattacagt caggcaccac cacaccggc taattttgta 1850
 tttttttagt agagacaggg tttctccatg tcggtcaggg tagtcccgaa 1900
 ctctgacct caagtgatct gcctgcctcg gcctcccaag tgctgggatt 1950
 acaggcgtga gccactgcac ccagcctaga atcttgata atatgtaatt 2000
 gtagggaaac tgctctcata ggaaagtttt ctgcttttta aatacaaaaa 2050

tacataaaaa tacataaaat ctgatgatga atataaaaaa gtaaccaacc 2100
tcattggaac aagtattaac attttggaat atgttttatt agttttgtga 2150
tgtactgttt tacaattttt accatttttt tcagtaatta ctgtaaaatg 2200
gtattattgg aatgaaacta tatttcctca tgtgctgatt tgtcttattt 2250
ttttcatact ttcccactgg tgctattttt atttccaatg gatattttctg 2300
tattactagg gaggcattta cagtcctcta atgttgatta atatgtgaaa 2350
agaaattgta ccaattttac taaattatgc agtttaaaat ggatgatttt 2400
atgttatgtg gatttcattt caataaaaaa aaactcttat caaaaaaaaaa 2450
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2478

<210> 477

<211> 201

<212> PRT

<213> Homo sapiens

<400> 477

Met	Glu	Tyr	His	Pro	Asp	Leu	Glu	Asn	Leu	Asp	Glu	Asp	Gly	Tyr	1	5	10	15
Thr	Gln	Leu	His	Phe	Asp	Ser	Gln	Ser	Asn	Thr	Arg	Ile	Ala	Val	20	25	30	
Val	Ser	Glu	Lys	Gly	Ser	Cys	Ala	Ala	Ser	Pro	Pro	Trp	Arg	Leu	35	40	45	
Ile	Ala	Val	Ile	Leu	Gly	Ile	Leu	Cys	Leu	Val	Ile	Leu	Val	Ile	50	55	60	
Ala	Val	Val	Leu	Gly	Thr	Met	Gly	Val	Leu	Ser	Ser	Pro	Cys	Pro	65	70	75	
Pro	Asn	Trp	Ile	Ile	Tyr	Glu	Lys	Ser	Cys	Tyr	Leu	Phe	Ser	Met	80	85	90	
Ser	Leu	Asn	Ser	Trp	Asp	Gly	Ser	Lys	Arg	Gln	Cys	Trp	Gln	Leu	95	100	105	
Gly	Ser	Asn	Leu	Leu	Lys	Ile	Asp	Ser	Ser	Asn	Glu	Leu	Gly	Phe	110	115	120	
Ile	Val	Lys	Gln	Val	Ser	Ser	Gln	Pro	Asp	Asn	Ser	Phe	Trp	Ile	125	130	135	
Gly	Leu	Ser	Arg	Pro	Gln	Thr	Glu	Val	Pro	Trp	Leu	Trp	Glu	Asp	140	145	150	
Gly	Ser	Thr	Phe	Ser	Ser	Asn	Leu	Phe	Gln	Ile	Arg	Thr	Thr	Ala	155	160	165	
Thr	Gln	Glu	Asn	Pro	Ser	Pro	Asn	Cys	Val	Trp	Ile	His	Val	Ser				

170

175

180

Val Ile Tyr Asp Gln Leu Cys Ser Val Pro Ser Tyr Ser Ile Cys
185 190 195

Glu Lys Lys Phe Ser Met
200

<210> 478

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 478

gtccacagac agtcatctca ggagcag 27

<210> 479

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 479

acaagtgtct tcccaacctg 20

<210> 480

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 480

atcctcccag agccatggta cctc 24

<210> 481

<211> 51

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 481

ccaaggatag ctgttggttc agagaaagga tcgtgtgctg catctcctcc 50

t 51

<210> 482

<211> 3819

<212> DNA

<213> Homo sapiens

<400> 482

ggaaggggag gagcaggcca cacaggcaca ggccggtgag ggacctgccc 50
agacctggag ggtctcgtc tgtcacacag gctggagtgc agtgggtgtga 100
tcttggtca tegtacctc cacctcccgg gttcaagtga ttctcatgcc 150
tcagcctccc gagtagctgg gattacaggt ggtgacttcc aagagtgact 200
ccgtcggagg aaaatgactc ccagtcgct gctgcagacg aactgttcc 250
tgctgagtct gctcttctg gtccaagggtg ccacggcag gggccacagg 300
gaagactttc gcttctgcag ccagcggaaac cagacacaca ggagcagcct 350
ccactacaaa ccacaccag acctgcgcat ctccatcgag aactccgaag 400
aggccctcac agtccatgcc ctttccctg cagcccaccc tgcttccga 450
tccttccctg accccagggg cctctaccac ttctgcctct actggaaccg 500
acatgctggg agattacatc ttctctatgg caagcgtgac ttcttgtga 550
gtgacaaagc ctctagcctc ctctgcttcc agcaccagga ggagagcctg 600
gctcagggcc ccccgctgtt agccacttct gtcacctcct ggtggagccc 650
tcagaacatc agcctgcca gtgccgccag cttcacctc tccttccaca 700
gtcctcccca cacggccgct cacaatgcct cggaggacat gtgcgagctc 750
aaaagggacc tccagctgct cagccagttc ctgaagcatc ccagaaggc 800
ctcaaggagg ccctcggtg ccccgccag ccagcagttg cagagcctgg 850
agtcgaaact gacctctgtg agattcatgg gggacatggt gtccttcgag 900
gaggaccgga tcaacgccac ggtgtggaag ctccagccca cagccggcct 950
ccaggacctg cacatccact cccggcagga ggaggagcag agcgagatca 1000
tggagtactc ggtgctgctg cctcgaacac tcttccagag gacgaaaggc 1050
cggagcgggg aggctgagaa gagactcctc ctggtggact tcagcagcca 1100
agccctgttc caggacaaga attccagcca agtcctgggt gagaaggctc 1150
tggggattgt ggtacagaac accaaagtag ccaacctcac ggagcccgtg 1200
gtgctcactt tccagacca gctacagccg aagaatgtga ctctgcaatg 1250
tgtgttctgg gttgaagacc ccacattgag cagcccgggg cattggagca 1300
gtgctgggtg tgagacgctc aggagagaaa cccaaacatc ctgcttctgc 1350
aaccacttga cctactttgc agtgctgatg gtctcctcgg tggaggtgga 1400
cgccgtgcac aagcactacc tgagcctcct ctctacgtg ggctgtgtcg 1450

tctctgccct ggccctgcctt gtcaccattg ccgcctacct ctgctccagg 1500
 gtgcccctgc cgtgcaggag gaaacctcgg gactacacca tcaaggtgca 1550
 catgaacctg ctgctggccg tcttctctgt ggacacgagc ttcctgctca 1600
 gcgagccgggt ggccctgaca ggctctgagg ctggctgccg agccagtgcc 1650
 atcttctctgc acttctccct gctcacctgc ctttctctgga tgggcctcga 1700
 ggggtacaac ctctaccgac tcgtggtgga ggtctttggc acctatgtcc 1750
 ctggctacct actcaagctg agcgccatgg gctggggctt ccccatcttt 1800
 ctgggtgacgc tgggtggccct ggtggatgtg gacaactatg gccccatcat 1850
 cttggctgtg cataggactc cagagggcgt catctaccct tccatgtgct 1900
 ggatccggga ctccctggtc agctacatca ccaacctggg cctcttcagc 1950
 ctgggtgtttc tgttcaacat ggccatgcta gccaccatgg tgggtgcagat 2000
 cctgcggctg cgccccaca cccaaaagt gtcacatgtg ctgacactgc 2050
 tgggcctcag cctggctcct ggctgcccct gggccttgat cttcttctcc 2100
 tttgcttctg gcaccttcca gcttgtcgtc ctctacctt tcagcatcat 2150
 cacctccttc caaggcttcc tcctcttcat ctggtactgg tccatgcggc 2200
 tgcaggcccc ggggtggcccc tcccctctga agagcaactc agacagcgcc 2250
 aggctcccca tcagctcggg cagcacctcg tccagccgca tctaggcctc 2300
 cagcccacct gccatgtga tgaagcagag atgcggcctc gtcgcacact 2350
 gcctgtggcc cccgagccag gccagcccc aggccagtca gccgcagact 2400
 ttggaaagcc caacgacct ggagagatgg gccgttgcca tgggtggacgg 2450
 actcccgggc tgggcttttg aattggcctt ggggactact cggctctcac 2500
 tcagctccca cgggactcag aagtgcgcgg ccatgctgcc taggggtactg 2550
 tccccacatc tgtcccaacc cagctggagg cctggtctct ccttacaacc 2600
 cctgggcccc gccctcattg ctgggggcca ggccttgat cttgagggtc 2650
 tggcacatcc ttaatcctgt gccctgctt gggacagaaa tgtggctcca 2700
 gttgctctgt ctctcgtggt caccctgagg gcactctgca tcctctgtca 2750
 ttttaacctc aggtggcacc cagggcgaat ggggcccagg gcagaccttc 2800
 agggccagag ccctggcgga ggagaggccc ttgcccagga gcacagcagc 2850
 agctcgcta cctctgagcc cagggccctt ccctccctca gccccccagt 2900

cctccctcca tcttccctgg ggttctctc ctctcccagg gcctccttgc 2950
 tccttcgttc acagctgggg gtccccgatt ccaatgctgt tttttgggga 3000
 gtggttttcca ggagctgcct ggtgtctgct gtaaagtgtt gtctactgca 3050
 caagcctcgg cctgccccctg agccaggctc ggtaccgatg cgtgggctgg 3100
 gctaggtccc tctgtccatc tgggcctttg tatgagctgc attgcccttg 3150
 ctcaccctga ccaagcacac gcctcagagg ggccctcagc ctctcctgaa 3200
 gccctcttgt ggcaagaact gtggaccatg ccagtcccgt ctgggtttcca 3250
 tcccaccact ccaaggactg agactgacct cctctggtga caatggccta 3300
 gagcctgaca ctctcctaag aggttctctc caagccccca aatagctcca 3350
 ggcgcctcgg gccgcccac atggttaatt ctgtccaaca aacacacacg 3400
 ggtagattgc tggcctgttg taggtggtag ggacacagat gaccgacctg 3450
 gtcactcctc ctgccaacat tcagtctggt atgtgaggcg tgcgtgaagc 3500
 aagaactcct ggagctacag ggacagggag ccatcattcc tgcctgggaa 3550
 tcctggaaga cttcctgcag gagtcagcgt tcaatcttga ccttgaagat 3600
 gggaaggatg ttctttttac gtaccaattc ttttgtcttt tgatattaaa 3650
 aagaagtaca tgttcattgt agagaatttg gaaactgtag aagagaatca 3700
 agaagaaaaa taaaaatcag ctgttgtaat cgcctagcaa aaaaaaaaaa 3750
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3800
 aaaaaaaaaa aaaaaaaaaa 3819

<210> 483

<211> 693

<212> PRT

<213> Homo sapiens

<400> 483

Met	Thr	Pro	Gln	Ser	Leu	Leu	Gln	Thr	Thr	Leu	Phe	Leu	Leu	Ser
1				5					10					15
Leu	Leu	Phe	Leu	Val	Gln	Gly	Ala	His	Gly	Arg	Gly	His	Arg	Glu
			20						25					30
Asp	Phe	Arg	Phe	Cys	Ser	Gln	Arg	Asn	Gln	Thr	His	Arg	Ser	Ser
			35						40					45
Leu	His	Tyr	Lys	Pro	Thr	Pro	Asp	Leu	Arg	Ile	Ser	Ile	Glu	Asn
			50						55					60
Ser	Glu	Glu	Ala	Leu	Thr	Val	His	Ala	Pro	Phe	Pro	Ala	Ala	His
			65						70					75

Pro	Ala	Ser	Arg	Ser	Phe	Pro	Asp	Pro	Arg	Gly	Leu	Tyr	His	Phe	80	85	90
Cys	Leu	Tyr	Trp	Asn	Arg	His	Ala	Gly	Arg	Leu	His	Leu	Leu	Tyr	95	100	105
Gly	Lys	Arg	Asp	Phe	Leu	Leu	Ser	Asp	Lys	Ala	Ser	Ser	Leu	Leu	110	115	120
Cys	Phe	Gln	His	Gln	Glu	Glu	Ser	Leu	Ala	Gln	Gly	Pro	Pro	Leu	125	130	135
Leu	Ala	Thr	Ser	Val	Thr	Ser	Trp	Trp	Ser	Pro	Gln	Asn	Ile	Ser	140	145	150
Leu	Pro	Ser	Ala	Ala	Ser	Phe	Thr	Phe	Ser	Phe	His	Ser	Pro	Pro	155	160	165
His	Thr	Ala	Ala	His	Asn	Ala	Ser	Val	Asp	Met	Cys	Glu	Leu	Lys	170	175	180
Arg	Asp	Leu	Gln	Leu	Leu	Ser	Gln	Phe	Leu	Lys	His	Pro	Gln	Lys	185	190	195
Ala	Ser	Arg	Arg	Pro	Ser	Ala	Ala	Pro	Ala	Ser	Gln	Gln	Leu	Gln	200	205	210
Ser	Leu	Glu	Ser	Lys	Leu	Thr	Ser	Val	Arg	Phe	Met	Gly	Asp	Met	215	220	225
Val	Ser	Phe	Glu	Glu	Asp	Arg	Ile	Asn	Ala	Thr	Val	Trp	Lys	Leu	230	235	240
Gln	Pro	Thr	Ala	Gly	Leu	Gln	Asp	Leu	His	Ile	His	Ser	Arg	Gln	245	250	255
Glu	Glu	Glu	Gln	Ser	Glu	Ile	Met	Glu	Tyr	Ser	Val	Leu	Leu	Pro	260	265	270
Arg	Thr	Leu	Phe	Gln	Arg	Thr	Lys	Gly	Arg	Ser	Gly	Glu	Ala	Glu	275	280	285
Lys	Arg	Leu	Leu	Leu	Val	Asp	Phe	Ser	Ser	Gln	Ala	Leu	Phe	Gln	290	295	300
Asp	Lys	Asn	Ser	Ser	Gln	Val	Leu	Gly	Glu	Lys	Val	Leu	Gly	Ile	305	310	315
Val	Val	Gln	Asn	Thr	Lys	Val	Ala	Asn	Leu	Thr	Glu	Pro	Val	Val	320	325	330
Leu	Thr	Phe	Gln	His	Gln	Leu	Gln	Pro	Lys	Asn	Val	Thr	Leu	Gln	335	340	345
Cys	Val	Phe	Trp	Val	Glu	Asp	Pro	Thr	Leu	Ser	Ser	Pro	Gly	His	350	355	360
Trp	Ser	Ser	Ala	Gly	Cys	Glu	Thr	Val	Arg	Arg	Glu	Thr	Gln	Thr			

Ser Cys Phe Cys	Asn His Leu Thr Tyr	Phe Ala Val Leu Met Val	380	385	390
Ser Ser Val Glu	Val Asp Ala Val His	Lys His Tyr Leu Ser Leu	395	400	405
Leu Ser Tyr Val	Gly Cys Val Val Ser	Ala Leu Ala Cys Leu Val	410	415	420
Thr Ile Ala Ala	Tyr Leu Cys Ser Arg	Val Pro Leu Pro Cys Arg	425	430	435
Arg Lys Pro Arg	Asp Tyr Thr Ile Lys	Val His Met Asn Leu Leu	440	445	450
Leu Ala Val Phe	Leu Leu Asp Thr Ser	Phe Leu Leu Ser Glu Pro	455	460	465
Val Ala Leu Thr	Gly Ser Glu Ala Gly	Cys Arg Ala Ser Ala Ile	470	475	480
Phe Leu His Phe	Ser Leu Leu Thr Cys	Leu Ser Trp Met Gly Leu	485	490	495
Glu Gly Tyr Asn	Leu Tyr Arg Leu Val	Val Glu Val Phe Gly Thr	500	505	510
Tyr Val Pro Gly	Tyr Leu Leu Lys Leu	Ser Ala Met Gly Trp Gly	515	520	525
Phe Pro Ile Phe	Leu Val Thr Leu Val	Ala Leu Val Asp Val Asp	530	535	540
Asn Tyr Gly Pro	Ile Ile Leu Ala Val	His Arg Thr Pro Glu Gly	545	550	555
Val Ile Tyr Pro	Ser Met Cys Trp Ile	Arg Asp Ser Leu Val Ser	560	565	570
Tyr Ile Thr Asn	Leu Gly Leu Phe Ser	Leu Val Phe Leu Phe Asn	575	580	585
Met Ala Met Leu	Ala Thr Met Val Val	Gln Ile Leu Arg Leu Arg	590	595	600
Pro His Thr Gln	Lys Trp Ser His Val	Leu Thr Leu Leu Gly Leu	605	610	615
Ser Leu Val Leu	Gly Leu Pro Trp Ala	Leu Ile Phe Phe Ser Phe	620	625	630
Ala Ser Gly Thr	Phe Gln Leu Val Val	Leu Tyr Leu Phe Ser Ile	635	640	645
Ile Thr Ser Phe	Gln Gly Phe Leu Ile	Phe Ile Trp Tyr Trp Ser	650	655	660

Met Arg Leu Gln Ala Arg Gly Gly Pro Ser Pro Leu Lys Ser Asn
665 670 675

Ser Asp Ser Ala Arg Leu Pro Ile Ser Ser Gly Ser Thr Ser Ser
680 685 690

Ser Arg Ile

<210> 484
<211> 516
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> 68, 70, 84, 147
<223> unknown base

<400> 484
tgcctggcct gccttgtaa caatgccgct tactctgctt ccaggttgcc 50
ctgccttgca gaggaaanch tcgggactac accntcaagt gcacatgaac 100
ctgctgctgg ccgtcttcct gctggacacg agcttcctgc tcagcgnagc 150
cggtagccct gacaggctct gaaggctggc tgccgagcca gtgccatctt 200
cctgcacttc tctgctcac ctgcctttcc tggatggggc tcgaggggta 250
caacctctac cgactcgtgg tggaggcttt tggcacctat gtccctggct 300
acctactcaa gctgagcgcc atgggctggg gcttccccat ctttctggtg 350
acgctggtgg ccctggtgga tgtggacaac tatggcccca tcatcttggc 400
tgtgcatagg actccagagg gcgtcatcta cccttccatg tgctggatcc 450
gggactccct ggtcagctac atcaccaacc tgggcctctt cagcctggtg 500
tttctgttca acatgg 516

<210> 485
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 485
ggcattggag cagtgctggg tg 22

<210> 486
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 486
tggaggccta gatgcggctg gacg 24

<210> 487
<211> 2849
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> 2715
<223> unknown base

<400> 487
cggacgcgtg ggcggacgcg tgggcggacg cgtgggcgga cgcgtgggct 50
ggttcaggtc cagggtttgc tttgatcctt ttcaaaaact ggagacacag 100
aagaggggctc taggaaaaag ttttgatgg gattatgtgg aaactaccct 150
gcgattctct gctgccagag caggctcggc gcttccaccc cagtgcagcc 200
ttcccctggc ggtggtgaaa gagactcggg agtcgctgct tccaaagtgc 250
ccgccgtgag tgagctctca cccagtcag ccaaagtgc ctcttcgggc 300
ttctcctgct gacatctgcc ctggccggcc agagacaggg gactcaggcg 350
gaatccaacc tgagtagtaa attccagttt tccagcaaca aggaacagaa 400
cggagtacaa gatcctcagc atgagagaat tattactgtg tctactaatg 450
gaagtattca cagcccaagg tttcctcata cttatccaag aaatacggtc 500
ttggtatgga gattagtagc agtagaggaa aatgtatgga tacaacttac 550
gtttgatgaa agatttgggc ttgaagacc agaagatgac atatgcaagt 600
atgattttgt agaagttgag gaaccagtg atggaactat attagggcgc 650
tggtgtggtt ctggtactgt accaggaaaa cagatttcta aaggaaatca 700
aattaggata agatttgtat ctgatgaata ttttccttct gaaccagggt 750
tctgcatcca ctacaacatt gtcatgccac aattcacaga agctgtgagt 800
ccttcagtgc taccoccttc agctttgcc ctggacctgc ttaataatgc 850
tataactgcc tttagtagct tggaagacct tattcgatat cttgaaccag 900
agagatggca gttggactta gaagatctat ataggccaac ttggcaactt 950
cttggaagg cttttgtttt tggaagaaaa tccagagtgg tggatctgaa 1000
ccttctaaca gaggaggtaa gattatacag ctgcacacct cgtaacttct 1050

cagtgtccat aagggaagaa ctaaagagaa ccgataccat tttctggcca 1100
ggttgtotcc tgggttaaacy ctgtgggtggg aactgtgcct gttgtotcca 1150
caattgcaat gaatgtcaat gtgtcccaag caaagttact aaaaaatacc 1200
acgaggtcct tcagttgaga ccaaagaccg gtgtcagggg attgcacaaa 1250
tcactcaccg acgtggccct ggagcaccat gaggagtgtg actgtgtgtg 1300
cagagggagc acaggaggat agccgcatca ccaccagcag ctcttgccca 1350
gagctgtgca gtgcagtggc tgattctatt agagaacgta tgcgttatct 1400
ccatccttaa tctcagttgt ttgcttcaag gacctttcat cttcaggatt 1450
tacagtgcac tctgaaagag gagacatcaa acagaattag gagttgtgca 1500
acagctcttt tgagaggagg cctaaaggac aggagaaaag gtcttcaatc 1550
gtggaaagaa aattaaatgt tgtattaaat agatcaccag ctagtttcag 1600
agttaccatg tacgtattcc actagctggg ttctgtatct cagttctttc 1650
gatacggctt agggtaatgt cagtacagga aaaaaactgt gcaagtgagc 1700
acctgattcc gttgccttgc ttaactctaa agctccatgt cctgggccta 1750
aaatcgtata aaatctggat tttttttttt ttttttgctc atattcacat 1800
atgtaaacca gaacattcta tgtactacaa acctgggttt taaaaaggaa 1850
ctatgttgct atgaattaaa cttgtgtcat gctgatagga cagactggat 1900
ttttcatatt tcttattaaa atttctgcca tttagaagaa gagaactaca 1950
ttcatggttt ggaagagata aacctgaaaa gaagagtggc cttatcttca 2000
ctttatcgat aagtcagttt atttgtttca ttgtgtacat ttttatattc 2050
tccttttgac attataactg ttggcttttc taatcttggt aaatatatct 2100
atttttacca aaggtattta atattctttt ttatgacaac ttagatcaac 2150
tatttttagc ttggtaaatt tttctaaaca caattgttat agccagagga 2200
acaaagatga tataaaatat tgttgctctg acaaaaatac atgtatttca 2250
ttctcgtatg gtgctagagt tagattaatc tgcattttta aaaactgaat 2300
tggaatagaa ttggtaaagt gcaaagactt tttgaaaata attaaattat 2350
catatcttcc attcctgtta ttggagatga aaataaaaag caacttatga 2400
aagtagacat tcagatccag ccattactaa cctattcctt ttttggggaa 2450
atctgagcct agctcagaaa aacataaagc accttgaaaa agacttggca 2500

gcttcctgat aaagcgtgct gtgctgtgca gtaggaacac atcctattta 2550
 ttgtgatggt gtgggttttat tatcttaaac tctgttccat acacttgat 2600
 aaatacatgg atatttttat gtacagaagt atgtctctta accagttcac 2650
 ttattgtact ctggcaattt aaaagaaaat cagtaaaata ttttgcttgt 2700
 aaaatgctta atatngtgcc taggttatgt ggtgactatt tgaatcaaaa 2750
 atgtattgaa tcatcaaata aaagaatgtg gctatttttg ggagaaaatt 2800
 aaaaaaaaaa aaaaaaaaaa aggttttaggg ataacagggt aatgcggcc 2849

<210> 488
 <211> 345
 <212> PRT
 <213> Homo sapiens

<400> 488

Met	Ser	Leu	Phe	Gly	Leu	Leu	Leu	Leu	Thr	Ser	Ala	Leu	Ala	Gly	1	5	10	15
Gln	Arg	Gln	Gly	Thr	Gln	Ala	Glu	Ser	Asn	Leu	Ser	Ser	Lys	Phe	20	25	30	
Gln	Phe	Ser	Ser	Asn	Lys	Glu	Gln	Asn	Gly	Val	Gln	Asp	Pro	Gln	35	40	45	
His	Glu	Arg	Ile	Ile	Thr	Val	Ser	Thr	Asn	Gly	Ser	Ile	His	Ser	50	55	60	
Pro	Arg	Phe	Pro	His	Thr	Tyr	Pro	Arg	Asn	Thr	Val	Leu	Val	Trp	65	70	75	
Arg	Leu	Val	Ala	Val	Glu	Glu	Asn	Val	Trp	Ile	Gln	Leu	Thr	Phe	80	85	90	
Asp	Glu	Arg	Phe	Gly	Leu	Glu	Asp	Pro	Glu	Asp	Asp	Ile	Cys	Lys	95	100	105	
Tyr	Asp	Phe	Val	Glu	Val	Glu	Glu	Pro	Ser	Asp	Gly	Thr	Ile	Leu	110	115	120	
Gly	Arg	Trp	Cys	Gly	Ser	Gly	Thr	Val	Pro	Gly	Lys	Gln	Ile	Ser	125	130	135	
Lys	Gly	Asn	Gln	Ile	Arg	Ile	Arg	Phe	Val	Ser	Asp	Glu	Tyr	Phe	140	145	150	
Pro	Ser	Glu	Pro	Gly	Phe	Cys	Ile	His	Tyr	Asn	Ile	Val	Met	Pro	155	160	165	
Gln	Phe	Thr	Glu	Ala	Val	Ser	Pro	Ser	Val	Leu	Pro	Pro	Ser	Ala	170	175	180	
Leu	Pro	Leu	Asp	Leu	Leu	Asn	Asn	Ala	Ile	Thr	Ala	Phe	Ser	Thr	185	190	195	

Leu	Glu	Asp	Leu	Ile	Arg	Tyr	Leu	Glu	Pro	Glu	Arg	Trp	Gln	Leu	
				200					205					210	
Asp	Leu	Glu	Asp	Leu	Tyr	Arg	Pro	Thr	Trp	Gln	Leu	Leu	Gly	Lys	
				215					220					225	
Ala	Phe	Val	Phe	Gly	Arg	Lys	Ser	Arg	Val	Val	Asp	Leu	Asn	Leu	
				230					235					240	
Leu	Thr	Glu	Glu	Val	Arg	Leu	Tyr	Ser	Cys	Thr	Pro	Arg	Asn	Phe	
				245					250					255	
Ser	Val	Ser	Ile	Arg	Glu	Glu	Leu	Lys	Arg	Thr	Asp	Thr	Ile	Phe	
				260					265					270	
Trp	Pro	Gly	Cys	Leu	Leu	Val	Lys	Arg	Cys	Gly	Gly	Asn	Cys	Ala	
				275					280					285	
Cys	Cys	Leu	His	Asn	Cys	Asn	Glu	Cys	Gln	Cys	Val	Pro	Ser	Lys	
				290					295					300	
Val	Thr	Lys	Lys	Tyr	His	Glu	Val	Leu	Gln	Leu	Arg	Pro	Lys	Thr	
				305					310					315	
Gly	Val	Arg	Gly	Leu	His	Lys	Ser	Leu	Thr	Asp	Val	Ala	Leu	Glu	
				320					325					330	
His	His	Glu	Glu	Cys	Asp	Cys	Val	Cys	Arg	Gly	Ser	Thr	Gly	Gly	
				335					340					345	

<210> 489

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 489

acttctcagt gtccataagg g 21

<210> 490

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 490

gaactaaaga gaaccgatac cattttctgg ccaggttgtc 40

<210> 491

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 491

caccacagcg tttaaccagg 20

<210> 492

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 492

acaacaggca cagttcccac 20

<210> 493

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 493

ggcggaatcc aacctgagta g 21

<210> 494

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 494

gcggctatcc tcctgtgctc 20

<210> 495

<211> 3283

<212> DNA

<213> Homo sapiens

<400> 495

cccatctcaa gctgatcttg gcacctctca tgctctgctc tttcaacca 50

gacctctaca ttccattttg gaagaagact aaaaatgggtg tttccaatgt 100

ggacactgaa gagacaaatt cttatccttt ttaacataat cctaatttcc 150

aaactccttg gggctagatg gtttcctaaa actctgccct gtgatgtcac 200

tctggatgtt ccaaagaacc atgtgatcgt ggactgcaca gacaagcatt 250

tgacagaaat tcctggaggt attcccacga acaccacgaa cctcaccctc 300

accattaacc acataaccaga catctcccca gcgtcctttc acagactgga 350

ccatctggta gagatcgatt tcagatgcaa ctgtgtacct attccactgg 400
 ggtcaaaaaa caacatgtgc atcaagaggc tgcagattaa acccagaagc 450
 tttagtggac tcaacttattt aaaatccctt tacctggatg gaaaccagct 500
 actagagata ccgcagggcc tcccgctag cttacagctt ctgagccttg 550
 aggccaacaa catcttttcc atcagaaaag agaacttaac agaactggcc 600
 aacatagaaa tactctacct gggccaaaac tggtattatc gaaatccttg 650
 ttatgtttca tattcaatag agaaagatgc cttcctaaac ttgacaaagt 700
 taaaagtgtc ctccctgaaa gataacaatg tcacagccgt ccctactgtt 750
 ttgccatcta ctttaacaga actatatctc tacaacaaca tgattgcaaa 800
 aatccaagaa gatgatttta ataacctcaa ccaattacaa attcttgacc 850
 taagtggaaa ttgccctcgt tggtataatg cccatttcc ttgtgcgccg 900
 tgtaaaaata attctcccct acagatccct gtaaatgctt ttgatgcgct 950
 gacagaatta aaagttttac gtctacacag taactctctt cagcatgtgc 1000
 cccaagatg gtttaagaac atcaacaaac tccaggaact ggatctgtcc 1050
 caaaacttct tggccaaaga aattggggat gctaaatttc tgcatTTTTT 1100
 cccagcctc atccaattgg atctgtcttt caattttgaa cttcaggctc 1150
 atcgtgcac tatgaatcta tcacaagcat tttcttcact gaaaagcctg 1200
 aaaattctgc ggatcagagg atatgtcttt aaagagttga aaagcttta 1250
 cctctcgcca ttacataatc ttcaaaatct tgaagttctt gatcttggca 1300
 ctaactttat aaaaattgct aacctcagca tgtttaaaca atttaaaaga 1350
 ctgaaagtca tagatctttc agtgaataaa atatcacctt caggagattc 1400
 aagtgaagtt ggcttctgct caaatgccag aacttctgta gaaagttag 1450
 aaccocaggc cctggaacaa ttacattatt tcagatatga taagtatgca 1500
 aggagttgca gattcaaaaa caaagaggct tctttcatgt ctgttaatga 1550
 aagctgctac aagtatgggc agaccttgga tctaagtaaa aatagtatat 1600
 tttttgtcaa gtctctgat tttcagcatc tttctttcct caaatgcctg 1650
 aatctgtcag gaaatctcat tagccaaact cttaatggca gtgaattcca 1700
 accttttagca gagctgagat atttggactt ctccaacaac cggcttgatt 1750
 tactccattc aacagcattt gaagagcttc acaaactgga agttctggat 1800

ataagcagta atagccatta ttttcaatca gaaggaatta ctcatatgct 1850
 aaactttacc aagaacctaa aggttctgca gaaactgatg atgaacgaca 1900
 atgacatctc ttcctccacc agcaggacca tggagagtga gtctcttaga 1950
 actctggaat tcagaggaaa tcacttagat gttttatgga gagaagggtga 2000
 taacagatac ttacaattat tcaagaatct gctaaaatta gaggaattag 2050
 acatctctaa aaattcccta agtttcttgc cttctggagt ttttgatggt 2100
 atgcctccaa atctaaagaa tctctctttg gccaaaaatg ggctcaaata 2150
 tttcagttgg aagaaactcc agtgtctaaa gaacctggaa actttggacc 2200
 tcagccacaa ccaactgacc actgtccctg agagattatc caactgttcc 2250
 agaagcctca agaattctgat tcttaagaat aatcaaatca ggagtctgac 2300
 gaagtatttt ctacaagatg ccttcagtt gcgatatctg gatctcagct 2350
 caaataaaat ccagatgatc caaaagacca gcttcccaga aaatgtcctc 2400
 aacaatctga agatgttgct tttgcatcat aatcggtttc tgtgcacctg 2450
 tgatgctgtg tggtttgtct ggtgggttaa ccatacgag gtgactattc 2500
 cttacctggc cacagatgtg acttgtgtgg ggccaggagc acacaagggc 2550
 caaagtgtga tctccctgga tctgtacacc tgtgagttag atctgactaa 2600
 cctgattctg ttctcacttt ccatatctgt atctctcttt ctcatggtga 2650
 tgatgacagc aagtcacctc tatttctggg atgtgtggtta tatttaccat 2700
 ttctgtaagg ccaagataaa ggggtatcag cgtctaatat caccagactg 2750
 ttgctatgat gcttttattg tgtatgacac taaagacca gctgtgaccg 2800
 agtgggtttt ggctgagctg gtggccaaac tggaagaccc aagagagaaa 2850
 cattttaatt tatgtctcga ggaaaggac tggttaccag ggcagccagt 2900
 tctggaaaac ctttcccaga gcatacagct tagcaaaaag acagtgtttg 2950
 tgatgacaga caagtatgca aagactgaaa attttaagat agcattttac 3000
 ttgtcccatc agaggctcat ggatgaaaaa gttgatgtga ttatcttgat 3050
 atttcttgag aagccctttc agaagtccaa gttcctccag ctccggaaaa 3100
 ggctctgtgg gagttctgtc cttgagtggc caacaaacc gcaagctcac 3150
 ccatacttct ggcagtgtct aaagaacgcc ctggccacag acaatcatgt 3200
 ggcttatagt caggtgttca aggaaacggt ctagcccttc tttgcaaaac 3250

acaactgcct agtttaccaa ggagaggcct ggc 3283

<210> 496

<211> 1049

<212> PRT

<213> Homo sapiens

<400> 496

Met	Val	Phe	Pro	Met	Trp	Thr	Leu	Lys	Arg	Gln	Ile	Leu	Ile	Leu
1				5					10					15

Phe	Asn	Ile	Ile	Leu	Ile	Ser	Lys	Leu	Leu	Gly	Ala	Arg	Trp	Phe
				20					25					30

Pro	Lys	Thr	Leu	Pro	Cys	Asp	Val	Thr	Leu	Asp	Val	Pro	Lys	Asn
				35					40					45

His	Val	Ile	Val	Asp	Cys	Thr	Asp	Lys	His	Leu	Thr	Glu	Ile	Pro
				50					55					60

Gly	Gly	Ile	Pro	Thr	Asn	Thr	Thr	Asn	Leu	Thr	Leu	Thr	Ile	Asn
				65					70					75

His	Ile	Pro	Asp	Ile	Ser	Pro	Ala	Ser	Phe	His	Arg	Leu	Asp	His
				80					85					90

Leu	Val	Glu	Ile	Asp	Phe	Arg	Cys	Asn	Cys	Val	Pro	Ile	Pro	Leu
				95					100					105

Gly	Ser	Lys	Asn	Asn	Met	Cys	Ile	Lys	Arg	Leu	Gln	Ile	Lys	Pro
				110					115					120

Arg	Ser	Phe	Ser	Gly	Leu	Thr	Tyr	Leu	Lys	Ser	Leu	Tyr	Leu	Asp
				125					130					135

Gly	Asn	Gln	Leu	Leu	Glu	Ile	Pro	Gln	Gly	Leu	Pro	Pro	Ser	Leu
				140					145					150

Gln	Leu	Leu	Ser	Leu	Glu	Ala	Asn	Asn	Ile	Phe	Ser	Ile	Arg	Lys
				155					160					165

Glu	Asn	Leu	Thr	Glu	Leu	Ala	Asn	Ile	Glu	Ile	Leu	Tyr	Leu	Gly
				170					175					180

Gln	Asn	Cys	Tyr	Tyr	Arg	Asn	Pro	Cys	Tyr	Val	Ser	Tyr	Ser	Ile
				185					190					195

Glu	Lys	Asp	Ala	Phe	Leu	Asn	Leu	Thr	Lys	Leu	Lys	Val	Leu	Ser
				200					205					210

Leu	Lys	Asp	Asn	Asn	Val	Thr	Ala	Val	Pro	Thr	Val	Leu	Pro	Ser
				215					220					225

Thr	Leu	Thr	Glu	Leu	Tyr	Leu	Tyr	Asn	Asn	Met	Ile	Ala	Lys	Ile
				230					235					240

Gln	Glu	Asp	Asp	Phe	Asn	Asn	Leu	Asn	Gln	Leu	Gln	Ile	Leu	Asp
				245					250					255

Leu	Ser	Gly	Asn	Cys	Pro	Arg	Cys	Tyr	Asn	Ala	Pro	Phe	Pro	Cys	
				260					265					270	
Ala	Pro	Cys	Lys	Asn	Asn	Ser	Pro	Leu	Gln	Ile	Pro	Val	Asn	Ala	
				275					280					285	
Phe	Asp	Ala	Leu	Thr	Glu	Leu	Lys	Val	Leu	Arg	Leu	His	Ser	Asn	
				290					295					300	
Ser	Leu	Gln	His	Val	Pro	Pro	Arg	Trp	Phe	Lys	Asn	Ile	Asn	Lys	
				305					310					315	
Leu	Gln	Glu	Leu	Asp	Leu	Ser	Gln	Asn	Phe	Leu	Ala	Lys	Glu	Ile	
				320					325					330	
Gly	Asp	Ala	Lys	Phe	Leu	His	Phe	Leu	Pro	Ser	Leu	Ile	Gln	Leu	
				335					340					345	
Asp	Leu	Ser	Phe	Asn	Phe	Glu	Leu	Gln	Val	Tyr	Arg	Ala	Ser	Met	
				350					355					360	
Asn	Leu	Ser	Gln	Ala	Phe	Ser	Ser	Leu	Lys	Ser	Leu	Lys	Ile	Leu	
				365					370					375	
Arg	Ile	Arg	Gly	Tyr	Val	Phe	Lys	Glu	Leu	Lys	Ser	Phe	Asn	Leu	
				380					385					390	
Ser	Pro	Leu	His	Asn	Leu	Gln	Asn	Leu	Glu	Val	Leu	Asp	Leu	Gly	
				395					400					405	
Thr	Asn	Phe	Ile	Lys	Ile	Ala	Asn	Leu	Ser	Met	Phe	Lys	Gln	Phe	
				410					415					420	
Lys	Arg	Leu	Lys	Val	Ile	Asp	Leu	Ser	Val	Asn	Lys	Ile	Ser	Pro	
				425					430					435	
Ser	Gly	Asp	Ser	Ser	Glu	Val	Gly	Phe	Cys	Ser	Asn	Ala	Arg	Thr	
				440					445					450	
Ser	Val	Glu	Ser	Tyr	Glu	Pro	Gln	Val	Leu	Glu	Gln	Leu	His	Tyr	
				455					460					465	
Phe	Arg	Tyr	Asp	Lys	Tyr	Ala	Arg	Ser	Cys	Arg	Phe	Lys	Asn	Lys	
				470					475					480	
Glu	Ala	Ser	Phe	Met	Ser	Val	Asn	Glu	Ser	Cys	Tyr	Lys	Tyr	Gly	
				485					490					495	
Gln	Thr	Leu	Asp	Leu	Ser	Lys	Asn	Ser	Ile	Phe	Phe	Val	Lys	Ser	
				500					505					510	
Ser	Asp	Phe	Gln	His	Leu	Ser	Phe	Leu	Lys	Cys	Leu	Asn	Leu	Ser	
				515					520					525	
Gly	Asn	Leu	Ile	Ser	Gln	Thr	Leu	Asn	Gly	Ser	Glu	Phe	Gln	Pro	
				530					535					540	
Leu	Ala	Glu	Leu	Arg	Tyr	Leu	Asp	Phe	Ser	Asn	Asn	Arg	Leu	Asp	

545	550	555
Leu Leu His Ser Thr Ala Phe Glu Glu	Leu His Lys Leu Glu Val	
560	565	570
Leu Asp Ile Ser Ser Asn Ser His Tyr	Phe Gln Ser Glu Gly Ile	
575	580	585
Thr His Met Leu Asn Phe Thr Lys Asn	Leu Lys Val Leu Gln Lys	
590	595	600
Leu Met Met Asn Asp Asn Asp Ile Ser	Ser Ser Thr Ser Arg Thr	
605	610	615
Met Glu Ser Glu Ser Leu Arg Thr Leu	Glu Phe Arg Gly Asn His	
620	625	630
Leu Asp Val Leu Trp Arg Glu Gly Asp	Asn Arg Tyr Leu Gln Leu	
635	640	645
Phe Lys Asn Leu Leu Lys Leu Glu Glu	Leu Asp Ile Ser Lys Asn	
650	655	660
Ser Leu Ser Phe Leu Pro Ser Gly Val	Phe Asp Gly Met Pro Pro	
665	670	675
Asn Leu Lys Asn Leu Ser Leu Ala Lys	Asn Gly Leu Lys Ser Phe	
680	685	690
Ser Trp Lys Lys Leu Gln Cys Leu Lys	Asn Leu Glu Thr Leu Asp	
695	700	705
Leu Ser His Asn Gln Leu Thr Thr Val	Pro Glu Arg Leu Ser Asn	
710	715	720
Cys Ser Arg Ser Leu Lys Asn Leu Ile	Leu Lys Asn Asn Gln Ile	
725	730	735
Arg Ser Leu Thr Lys Tyr Phe Leu Gln	Asp Ala Phe Gln Leu Arg	
740	745	750
Tyr Leu Asp Leu Ser Ser Asn Lys Ile	Gln Met Ile Gln Lys Thr	
755	760	765
Ser Phe Pro Glu Asn Val Leu Asn Asn	Leu Lys Met Leu Leu Leu	
770	775	780
His His Asn Arg Phe Leu Cys Thr Cys	Asp Ala Val Trp Phe Val	
785	790	795
Trp Trp Val Asn His Thr Glu Val Thr	Ile Pro Tyr Leu Ala Thr	
800	805	810
Asp Val Thr Cys Val Gly Pro Gly Ala	His Lys Gly Gln Ser Val	
815	820	825
Ile Ser Leu Asp Leu Tyr Thr Cys Glu	Leu Asp Leu Thr Asn Leu	
830	835	840

Ile	Leu	Phe	Ser	Leu	Ser	Ile	Ser	Val	Ser	Leu	Phe	Leu	Met	Val	845	850	855
Met	Met	Thr	Ala	Ser	His	Leu	Tyr	Phe	Trp	Asp	Val	Trp	Tyr	Ile	860	865	870
Tyr	His	Phe	Cys	Lys	Ala	Lys	Ile	Lys	Gly	Tyr	Gln	Arg	Leu	Ile	875	880	885
Ser	Pro	Asp	Cys	Cys	Tyr	Asp	Ala	Phe	Ile	Val	Tyr	Asp	Thr	Lys	890	895	900
Asp	Pro	Ala	Val	Thr	Glu	Trp	Val	Leu	Ala	Glu	Leu	Val	Ala	Lys	905	910	915
Leu	Glu	Asp	Pro	Arg	Glu	Lys	His	Phe	Asn	Leu	Cys	Leu	Glu	Glu	920	925	930
Arg	Asp	Trp	Leu	Pro	Gly	Gln	Pro	Val	Leu	Glu	Asn	Leu	Ser	Gln	935	940	945
Ser	Ile	Gln	Leu	Ser	Lys	Lys	Thr	Val	Phe	Val	Met	Thr	Asp	Lys	950	955	960
Tyr	Ala	Lys	Thr	Glu	Asn	Phe	Lys	Ile	Ala	Phe	Tyr	Leu	Ser	His	965	970	975
Gln	Arg	Leu	Met	Asp	Glu	Lys	Val	Asp	Val	Ile	Ile	Leu	Ile	Phe	980	985	990
Leu	Glu	Lys	Pro	Phe	Gln	Lys	Ser	Lys	Phe	Leu	Gln	Leu	Arg	Lys	995	1000	1005
Arg	Leu	Cys	Gly	Ser	Ser	Val	Leu	Glu	Trp	Pro	Thr	Asn	Pro	Gln	1010	1015	1020
Ala	His	Pro	Tyr	Phe	Trp	Gln	Cys	Leu	Lys	Asn	Ala	Leu	Ala	Thr	1025	1030	1035
Asp	Asn	His	Val	Ala	Tyr	Ser	Gln	Val	Phe	Lys	Glu	Thr	Val		1040	1045	

<210> 497

<211> 4199

<212> DNA

<213> Homo sapiens

<400> 497

gggtaccatt ctgctgctgct gcaagttacg gaatgaaaa ttagaacaac 50

agaaacatgg aaaacatgtt ccttcagtcg tcaatgctga cctgcatttt 100

cctgctaata tctggttcct gtgagttatg cgccgaagaa aattttttcta 150

gaagctatcc ttgtgatgag aaaaagcaaa atgactcagt tattgcagag 200

tgcagcaatc gtcgactaca ggaagttccc caaacggtgg gcaaatatgt 250

gacagaacta	gacctgtctg	ataatttcat	cacacacata	acgaatgaat	300
catttcaagg	gctgcaaaat	ctcactaaaa	taaatctaaa	ccacaacccc	350
aatgtacagc	accagaacgg	aaatcccgg	atacaatcaa	atggcttgaa	400
tatcacagac	ggggcattcc	tcaacctaaa	aaacctagg	gagttactgc	450
ttgaagacaa	ccagttaccc	caaataccct	ctggtttgcc	agagtctttg	500
acagaactta	gtctaattca	aaacaatata	tacaacataa	ctaaaggagg	550
catttcaaga	cttataaaact	tgaaaaatct	ctatttggcc	tggaactgct	600
attttaacaa	agtttgcgag	aaaactaaca	tagaagatgg	agtatttgaa	650
acgctgacaa	atttggagtt	gctatcacta	tctttcaatt	ctctttcaca	700
cgtgccaccc	aaactgccaa	gtcccttacg	caaacttttt	ctgagcaaca	750
cccagatcaa	atacattagt	gaagaagatt	tcaagggatt	gataaattta	800
acattactag	atttaagcgg	gaactgtccg	agggtgcttc	atgccccatt	850
tccatgcgtg	ccttgtgatg	gtggtgcttc	aattaatata	gatcgttttg	900
cttttcaaaa	cttgacccaa	cttcgatacc	taaacctctc	tagcacttcc	950
ctcaggaaga	ttaatgctgc	ctggttttaa	aatatgcttc	atctgaaggt	1000
gctggatott	gaattcaact	atttagtggg	agaaatagtc	tctggggcat	1050
ttttaacgat	gctgccccgc	ttagaaatac	ttgacttgtc	ttttaactat	1100
ataaagggga	gttatccaca	gcataattaat	atttccagaa	acttctctaa	1150
acttttgtct	ctacggggcat	tgcatttaag	aggttatgtg	ttccaggaac	1200
tcagagaaga	tgatttccag	cccctgatgc	agcttccaaa	cttatcgact	1250
atcaacttgg	gtattaattt	tattaagcaa	atcgatttca	aacttttcca	1300
aaatttctoc	aatctggaaa	ttatttactt	gtcagaaaac	agaatatcac	1350
cgttggtaaa	agatacccg	cagagttagt	caaatagttc	ctcttttcaa	1400
cgtcatatcc	ggaaacgacg	ctcaacagat	tttgagtttg	accacatttc	1450
gaacttttat	catttcaccc	gtcctttaat	aaagccacaa	tgtgctgctt	1500
atggaaaagc	cttagattta	agcctcaaca	gtattttctt	cattggggcca	1550
aaccaatttg	aaaatcttcc	tgacattg	tgtttaaata	tgtctgcaaa	1600
tagcaatgct	caagtgttaa	gtggaactga	attttcagcc	attcctcatg	1650
tcaaataattt	ggatttgaca	aacaatagac	tagactttga	taatgctagt	1700

gctcttactg aattgtccga cttggaagtt ctagatctca gctataattc 1750
acactatttc agaatagcag gcgtaacaca tcatctagaa tttattcaaa 1800
atttcacaaa tctaaaagtt ttaaacttga gccacaacaa catttatact 1850
ttaacagata agtataacct ggaaagcaag tccctggtag aattagtttt 1900
cagtggcaat cgccttgaca ttttgtggaa tgatgatgac aacagggtata 1950
tctccatttt caaaggtctc aagaatctga cacgtctgga tttatccctt 2000
aataggctga agcacatccc aaatgaagca ttccttaatt tgccagcgag 2050
tctcactgaa ctacatataa atgataatat gttaaagttt tttaactgga 2100
cattactcca gcagtttctc cgtctcgagt tgcttgactt acgtggaaac 2150
aaactactct ttttaactga tagcctatct gactttacat cttcccttcg 2200
gacactgctg ctgagtcata acaggatttc ccacctaccc tctggctttc 2250
tttctgaagt cagtagtctg aagcacctcg atttaagttc caatctgcta 2300
aaaacaatca acaaatccgc acttgaaact aagaccacca ccaaattatc 2350
tatgttggaa ctacacggaa accccttga atgcacctgt gacattggag 2400
atttccgaag atggatggat gaacatctga atgtcaaaat tcccagactg 2450
gtagatgtca tttgtgccag tcctggggat caaagaggga agagtattgt 2500
gagtctggag ctaacaactt gtgtttcaga tgtcactgca gtgatattat 2550
ttttcttcac gttctttatc accaccatgg ttatgttggc tgccctggct 2600
caccatttgt tttactggga tgtttggttt atatataatg tgtgtttagc 2650
taaggtaaaa ggctacaggt ctctttccac atcccaaact ttctatgatg 2700
cttacatttc ttatgacacc aaagatgcct ctgttactga ctgggtgata 2750
aatgagctgc gctaccacct tgaagagagc cgagacaaaa acgttctcct 2800
ttgtctagag gagagggatt gggaccggg attggccatc atcgacaacc 2850
tcatgcagag catcaaccaa agcaagaaaa cagtatttgt tttaaccaa 2900
aaatatgcaa aaagctggaa ctttaaaaca gctttttact tggctttgca 2950
gaggctaata gatgagaaca tggatgtgat tatatttatc ctgctggagc 3000
cagtgttaca gcattctcag tatttgaggc tacggcagcg gatctgtaag 3050
agctccatcc tccagtggcc tgacaacccg aaggcagaag gcttgttttg 3100
gcaaactctg agaaatgtgg tcttgactga aaatgattca cggataaca 3150

atatgtatgt cgattccatt aagcaatact aactgacgtt aagtcatgat 3200
 ttgcgcgcat aataaagatg caaaggaatg acatttctgt attagttatc 3250
 tattgctatg taacaaatta tcccaaaact tagtggttta aaacaacaca 3300
 tttgctggcc cacagttttt gagggtcagg agtccaggcc cagcataact 3350
 gggctcctctg ctgaggggtg ctgagaggct gcaatgtagg tgttcaccag 3400
 agacataggg atcactgggg tcacactcat gtggttgttt tctggattca 3450
 attcctcctg ggctattggc caaaggctat actcatgtaa gccatgagag 3500
 cctctcccac aaggcagctt gcttcatcag agctagcaaa aaagagaggt 3550
 tgctagcaag atgaagtcac aatcttttgt aatcgaatca aaaaagtgat 3600
 atctcatcac tttggccata ttctatttgt tagaagtaaa ccacaggtcc 3650
 caccagctcc atgggagtga ccacctcagt ccagggaataa cagctgaaga 3700
 ccaagatggt gagctctgat tgcttcagtt ggtcatcaac tattttccct 3750
 tgactgctgt cctgggatgg cctgctatct tgatgataga ttgtgaatat 3800
 caggaggcag ggatcactgt ggaccatctt agcagttgac ctaacacatc 3850
 ttcttttcaa tatctaagaa cttttgccac tgtgactaat ggtcctaata 3900
 ttaagctggt gtttatattt atcatatatc tatggctaca tggttatatt 3950
 atgctgtggt tgcgttcggt tttatttaca gttgctttta caaatatttg 4000
 ctgtaacatt tgacttctaa ggttttagatg ccatttaaga actgagatgg 4050
 atagctttta aagcatcttt tacttcttac cattttttta aagtatgcag 4100
 ctaaattcga agcttttggt ctatattggt aattgccatt gctgtaaatc 4150
 ttaaaatgaa tgaataaaaa tgtttcattt tacaaaaaaa aaaaaaaaaa 4199

<210> 498
 <211> 1041
 <212> PRT
 <213> Homo sapiens

<400> 498
 Met Glu Asn Met Phe Leu Gln Ser Ser Met Leu Thr Cys Ile Phe
 1 5 10 15
 Leu Leu Ile Ser Gly Ser Cys Glu Leu Cys Ala Glu Glu Asn Phe
 20 25 30
 Ser Arg Ser Tyr Pro Cys Asp Glu Lys Lys Gln Asn Asp Ser Val
 35 40 45
 Ile Ala Glu Cys Ser Asn Arg Arg Leu Gln Glu Val Pro Gln Thr

635 640 645

Leu Ser Leu Asn	Arg Leu Lys His Ile	Pro Asn Glu Ala Phe	Leu
650		655	660
Asn Leu Pro Ala	Ser Leu Thr Glu Leu	His Ile Asn Asp Asn	Met
665		670	675
Leu Lys Phe Phe	Asn Trp Thr Leu Leu	Gln Gln Phe Pro Arg	Leu
680		685	690
Glu Leu Leu Asp	Leu Arg Gly Asn Lys	Leu Leu Phe Leu Thr	Asp
695		700	705
Ser Leu Ser Asp	Phe Thr Ser Ser Leu	Arg Thr Leu Leu Leu	Ser
710		715	720
His Asn Arg Ile	Ser His Leu Pro Ser	Gly Phe Leu Ser Glu	Val
725		730	735
Ser Ser Leu Lys	His Leu Asp Leu Ser	Ser Asn Leu Leu Lys	Thr
740		745	750
Ile Asn Lys Ser	Ala Leu Glu Thr Lys	Thr Thr Thr Lys Leu	Ser
755		760	765
Met Leu Glu Leu	His Gly Asn Pro Phe	Glu Cys Thr Cys Asp	Ile
770		775	780
Gly Asp Phe Arg	Arg Trp Met Asp Glu	His Leu Asn Val Lys	Ile
785		790	795
Pro Arg Leu Val	Asp Val Ile Cys Ala	Ser Pro Gly Asp Gln	Arg
800		805	810
Gly Lys Ser Ile	Val Ser Leu Glu Leu	Thr Thr Cys Val Ser	Asp
815		820	825
Val Thr Ala Val	Ile Leu Phe Phe Phe	Thr Phe Phe Ile Thr	Thr
830		835	840
Met Val Met Leu	Ala Ala Leu Ala His	His Leu Phe Tyr Trp	Asp
845		850	855
Val Trp Phe Ile	Tyr Asn Val Cys Leu	Ala Lys Val Lys Gly	Tyr
860		865	870
Arg Ser Leu Ser	Thr Ser Gln Thr Phe	Tyr Asp Ala Tyr Ile	Ser
875		880	885
Tyr Asp Thr Lys	Asp Ala Ser Val Thr	Asp Trp Val Ile Asn	Glu
890		895	900
Leu Arg Tyr His	Leu Glu Glu Ser Arg	Asp Lys Asn Val Leu	Leu
905		910	915
Cys Leu Glu Glu	Arg Asp Trp Asp Pro	Gly Leu Ala Ile Ile	Asp
920		925	930

Asn Leu Met Gln Ser Ile Asn Gln Ser Lys Lys Thr Val Phe Val
 935 940 945
 Leu Thr Lys Lys Tyr Ala Lys Ser Trp Asn Phe Lys Thr Ala Phe
 950 955 960
 Tyr Leu Ala Leu Gln Arg Leu Met Asp Glu Asn Met Asp Val Ile
 965 970 975
 Ile Phe Ile Leu Leu Glu Pro Val Leu Gln His Ser Gln Tyr Leu
 980 985 990
 Arg Leu Arg Gln Arg Ile Cys Lys Ser Ser Ile Leu Gln Trp Pro
 995 1000 1005
 Asp Asn Pro Lys Ala Glu Gly Leu Phe Trp Gln Thr Leu Arg Asn
 1010 1015 1020
 Val Val Leu Thr Glu Asn Asp Ser Arg Tyr Asn Asn Met Tyr Val
 1025 1030 1035

Asp Ser Ile Lys Gln Tyr
 1040

<210> 499

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 499

taaagaccca gctgtgaccg 20

<210> 500

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 500

atccatgagc ctctgatggg 20

<210> 501

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 501

atttatgtct cgaggaaagg gactggttac cagggcagcc agttc 45

<210> 502

<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 502
gccgagacaa aaacgttctc c 21

<210> 503
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 503
catccatgtt ctcattccatt agcc 24

<210> 504
<211> 46
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 504
tcgacaacct catgcagagc atcaaccaa gcaagaaaac agtatt 46

<210> 505
<211> 1738
<212> DNA
<213> Homo sapiens

<400> 505
ccagggtccaa ctgcacctcg gttctatcga ttgaattccc cggggatcct 50
ctagagatcc ctcgacctcg acccagcgt cgcgaagct ggccctgcac 100
ggctgcaagg gaggtcctcg tggacaggcc aggcaggtgg gcctcaggag 150
gtgcctccag gcggccagtg ggctgaggc ccagcaagg gctagggtec 200
atctccagtc ccaggacaca gcagcgcca ccatggccac gcctgggctc 250
cagcagcatc agcagcccc aggaccggg aggcacaggt ggccccacc 300
accggagga gcagctcctg ccctgtccg ggggatgact gattctctc 350
cgccaggcca ccagaggag aaggccacc cgcctggagg cacaggccat 400
gaggggctct caggaggtgc tgctgatgtg gcttctggtg ttggcagtgg 450
gcggcacaga gcacgcctac cggcccggcc gtaggggtgtg tgctgtccg 500

Ala Val Gly Gly Thr Glu His Ala Tyr Arg Pro Gly Arg Arg Val
20 25 30

Cys Ala Val Arg Ala His Gly Asp Pro Val Ser Glu Ser Phe Val
35 40 45

Gln Arg Val Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg
50 55 60

Ala Cys Ser Thr Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg
65 70 75

Ser Pro Gly Leu Ala Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro
80 85 90

Gly Trp Lys Arg Thr Ser Gly Leu Pro Gly Ala Cys Gly Ala Ala
95 100 105

Ile Cys Gln Pro Pro Cys Arg Asn Gly Gly Ser Cys Val Gln Pro
110 115 120

Gly Arg Cys Arg Cys Pro Ala Gly Trp Arg Gly Asp Thr Cys Gln
125 130 135

Ser Asp Val Asp Glu Cys Ser Ala Arg Arg Gly Gly Cys Pro Gln
140 145 150

Arg Cys Ile Asn Thr Ala Gly Ser Tyr Trp Cys Gln Cys Trp Glu
155 160 165

Gly His Ser Leu Ser Ala Asp Gly Thr Leu Cys Val Pro Lys Gly
170 175 180

Gly Pro Pro Arg Val Ala Pro Asn Pro Thr Gly Val Asp Ser Ala
185 190 195

Met Lys Glu Glu Val Gln Arg Leu Gln Ser Arg Val Asp Leu Leu
200 205 210

Glu Glu Lys Leu Gln Leu Val Leu Ala Pro Leu His Ser Leu Ala
215 220 225

Ser Gln Ala Leu Glu His Gly Leu Pro Asp Pro Gly Ser Leu Leu
230 235 240

Val His Ser Phe Gln Gln Leu Gly Arg Ile Asp Ser Leu Ser Glu
245 250 255

Gln Ile Ser Phe Leu Glu Glu Gln Leu Gly Ser Cys Ser Cys Lys
260 265 270

Lys Asp Ser

<210> 507
<211> 1700
<212> DNA
<213> Homo sapiens

<400> 507

gccaggcagg tgggcctcag gaggtgcctc caggcggcca gtgggcctga 50
ggccccagca agggctaggg tccatctcca gtcccaggac acagcagcgg 100
ccaccatggc cacgcctggg ctccagcagc atcagagcag cccctgtggt 150
tggcagcaaa gttcagcttg gctgggcccg ctgtgagggg cttcgcgcta 200
cgccctgcgg tgtcccagag gctgaggtct cctcatcttc tccctagcag 250
tggatgagca acccaacggg ggcccgggga ggggaactgg ccccgaggga 300
gaggaacccc aaagccacat ctgtagccag gatgagcagt gtgaatccag 350
gcagcccccga ggaccgggga ggcacagggtg gccccacca cccggaggag 400
cagctcctgc ccctgtccgg gggatgactg attctcctcc gccaggccac 450
ccagaggaga aggccacccc gcctggaggc acaggccatg aggggctctc 500
aggaggtgct gctgatgtgg cttctggtgt tggcagtggg cggcacagag 550
cacgcctacc ggcccggccg tagggtgtgt gctgtccggg ctacgggga 600
ccctgtctcc gagtcgttcg tgcagcgtgt gtaccagccc ttcctacca 650
cctgcgacgg gcaccggggc tgcagcacct accgaaccat ctataggacc 700
gcctaccgcc gcagccctgg gctggcccct gccaggcctc gctacgcgtg 750
ctgccccggc tggaagagga ccagcgggct tcctggggcc tgtggagcag 800
caatatgccca gccgccatgc cggaacggag ggagctgtgt ccagcctggc 850
cgctgccgct gccctgcagg atggcggggg gacacttgcc agtcagatgt 900
ggatgaatgc agtgctagga ggggcggctg tccccagcgc tgcataca 950
ccgccggcag ttactggtgc cagtgttggg aggggcacag cctgtctgca 1000
gacggtacac tctgtgtgcc caaggagggg cccccaggg tggcccccaa 1050
cccacagga gtggacagt caatgaagga agaagtgcag aggctgcagt 1100
ccagggtgga cctgctggag gagaagctgc agctggtgct ggccccactg 1150
cacagcctgg cctcgaggc actggagcat gggctcccgg accccggcag 1200
cctcctggtg cactccttc agcagctcg cgcacatcgac tccctgagcg 1250
agcagatttc cttcctggag gagcagctgg ggtcctgctc ctgcaagaaa 1300
gactcgtgac tgcccagcgc tccaggctgg actgagcccc tcacgccgcc 1350
ctgcagcccc catgcccctg cccaacatgc tgggggtcca gaagccacct 1400
cggggtgact gagcggaagg ccaggcaggg ccttcctcct cttcctcctc 1450

cccttcctcg ggaggctccc cagaccctgg catgggatgg gctgggatct 1500
tctctgtgaa tccaccctcg gctaccccca ccctggctac cccaacggca 1550
tcccaaggcc aggtggaccc tcagctgagg gaaggtacga gctccctgct 1600
ggagcctggg acccatggca caggccaggc agcccggagg ctgggtgggg 1650
cctcagtggg ggctgctgcc tgacccccag cacaataaaa atgaaacgtg 1700

<210> 508

<211> 273

<212> PRT

<213> Homo sapiens

<400> 508

Met	Arg	Gly	Ser	Gln	Glu	Val	Leu	Leu	Met	Trp	Leu	Leu	Val	Leu	1	5	10	15
Ala	Val	Gly	Gly	Thr	Glu	His	Ala	Tyr	Arg	Pro	Gly	Arg	Arg	Val	20	25	30	
Cys	Ala	Val	Arg	Ala	His	Gly	Asp	Pro	Val	Ser	Glu	Ser	Phe	Val	35	40	45	
Gln	Arg	Val	Tyr	Gln	Pro	Phe	Leu	Thr	Thr	Cys	Asp	Gly	His	Arg	50	55	60	
Ala	Cys	Ser	Thr	Tyr	Arg	Thr	Ile	Tyr	Arg	Thr	Ala	Tyr	Arg	Arg	65	70	75	
Ser	Pro	Gly	Leu	Ala	Pro	Ala	Arg	Pro	Arg	Tyr	Ala	Cys	Cys	Pro	80	85	90	
Gly	Trp	Lys	Arg	Thr	Ser	Gly	Leu	Pro	Gly	Ala	Cys	Gly	Ala	Ala	95	100	105	
Ile	Cys	Gln	Pro	Pro	Cys	Arg	Asn	Gly	Gly	Ser	Cys	Val	Gln	Pro	110	115	120	
Gly	Arg	Cys	Arg	Cys	Pro	Ala	Gly	Trp	Arg	Gly	Asp	Thr	Cys	Gln	125	130	135	
Ser	Asp	Val	Asp	Glu	Cys	Ser	Ala	Arg	Arg	Gly	Gly	Cys	Pro	Gln	140	145	150	
Arg	Cys	Ile	Asn	Thr	Ala	Gly	Ser	Tyr	Trp	Cys	Gln	Cys	Trp	Glu	155	160	165	
Gly	His	Ser	Leu	Ser	Ala	Asp	Gly	Thr	Leu	Cys	Val	Pro	Lys	Gly	170	175	180	
Gly	Pro	Pro	Arg	Val	Ala	Pro	Asn	Pro	Thr	Gly	Val	Asp	Ser	Ala	185	190	195	
Met	Lys	Glu	Glu	Val	Gln	Arg	Leu	Gln	Ser	Arg	Val	Asp	Leu	Leu	200	205	210	

Glu	Glu	Lys	Leu	Gln	Leu	Val	Leu	Ala	Pro	Leu	His	Ser	Leu	Ala
				215					220					225
Ser	Gln	Ala	Leu	Glu	His	Gly	Leu	Pro	Asp	Pro	Gly	Ser	Leu	Leu
				230					235					240
Val	His	Ser	Phe	Gln	Gln	Leu	Gly	Arg	Ile	Asp	Ser	Leu	Ser	Glu
				245					250					255
Gln	Ile	Ser	Phe	Leu	Glu	Glu	Gln	Leu	Gly	Ser	Cys	Ser	Cys	Lys
				260					265					270

Lys Asp Ser

<210> 509
 <211> 1538
 <212> DNA
 <213> Homo sapiens

<400> 509

```

ccccacgcgtc cgaagctggc cctgcacggc tgcaagggag gctcctgtgg 50
acaggccagg caggtgggccc tcaggaggtg cctccaggcg gccagtgggc 100
ctgaggcccc agcaagggct aggggtccatc tccagtccca ggacacagca 150
gcggccacca tggccacgcc tgggctccag cagcatcagc agccccagg 200
accggggagg cacaggtggc ccccaccacc cggaggagca gctcctgccc 250
ctgtccgggg gatgactgat tctcctccgc caggccacc agaggagaag 300
gccaccccg ctaggagcac aggccatgag gggctctcag gaggtgctgc 350
tgatgtggct tctggtgttg gcagtgggcg gcacagagca cgctaccgg 400
cccggccgta ggggtgtgtg tgtccgggct cacggggacc ctgtctccga 450
gtcgttcgtg cagcgtgtgt accagccctt cctcaccacc tgcgacgggc 500
accgggcctg cagcacctac cgaaccatct ataggaccgc ctaccgccc 550
agccctgggc tggcccctgc caggcctcgc tacgctgct gcccggctg 600
gaagaggacc agcgggcttc ctggggcctg tggagcagca atatgccagc 650
cgccatgccg gaacggaggg agctgtgtcc agcctggccg ctgcccgtgc 700
cctgcaggat ggcgggggtga cacttgccag tcagatgtgg atgaatgcag 750
tgctaggagg ggcggctgtc ccagcgtg cgtcaacacc gccggcagtt 800
actggtgcca gtgttgggag gggcacagcc tgtctgcaga cggtaactc 850
tgtgtgcca agggagggcc cccaggggtg gcccacaacc cgacaggagt 900
ggacagtgca atgaaggaag aagtgcagag gctgcagtcc aggggtggacc 950

```


tgctggagga gaagctgcag ctggtgctgg cccactgca cagcctggcc 1000
 tcgcaggcac tggagcatgg gctcccgac cccggcagcc tcctggtgca 1050
 ctcttccag cagctcggcc gcatcgactc cctgagcgag cagatttcct 1100
 tcctggagga gcagctgggg tcctgctcct gcaagaaaga ctctgactg 1150
 cccagcgccc caggctggac tgagcccctc acgccgccct gcagcccca 1200
 tgcccctgcc caacatgctg ggggtccaga agccacctcg gggtgactga 1250
 gcggaaggcc aggcagggcc ttcctcctct tcctcctccc cttcctcggg 1300
 aggcctccca gaccctggca tgggatgggc tgggatcttc tctgtgaatc 1350
 caccctggc taccaccacc ctggctaccc caacggcatc ccaaggccag 1400
 gtgggccctc agctgagga aggtacgagc tcctgctgg agcctgggac 1450
 ccatggcaca ggccaggcag cccggaggct ggggtggggcc tcagtggggg 1500

ctgctgcctg acccccagca caataaaaat gaaacgtg 1538

<210> 510

<211> 273

<212> PRT

<213> Homo sapiens

<400> 510

Met Arg Gly Ser Gln Glu Val Leu Leu Met Trp Leu Leu Val Leu
 1 5 10 15

Ala Val Gly Gly Thr Glu His Ala Tyr Arg Pro Gly Arg Arg Val
 20 25 30

Cys Ala Val Arg Ala His Gly Asp Pro Val Ser Glu Ser Phe Val
 35 40 45

Gln Arg Val Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg
 50 55 60

Ala Cys Ser Thr Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg
 65 70 75

Ser Pro Gly Leu Ala Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro
 80 85 90

Gly Trp Lys Arg Thr Ser Gly Leu Pro Gly Ala Cys Gly Ala Ala
 95 100 105

Ile Cys Gln Pro Pro Cys Arg Asn Gly Gly Ser Cys Val Gln Pro
 110 115 120

Gly Arg Cys Arg Cys Pro Ala Gly Trp Arg Gly Asp Thr Cys Gln
 125 130 135

Ser Asp Val Asp Glu Cys Ser Ala Arg Arg Gly Gly Cys Pro Gln

140	145	150
Arg Cys Val Asn Thr Ala Gly Ser Tyr Trp Cys Gln Cys Trp Glu		
155	160	165
Gly His Ser Leu Ser Ala Asp Gly Thr Leu Cys Val Pro Lys Gly		
170	175	180
Gly Pro Pro Arg Val Ala Pro Asn Pro Thr Gly Val Asp Ser Ala		
185	190	195
Met Lys Glu Glu Val Gln Arg Leu Gln Ser Arg Val Asp Leu Leu		
200	205	210
Glu Glu Lys Leu Gln Leu Val Leu Ala Pro Leu His Ser Leu Ala		
215	220	225
Ser Gln Ala Leu Glu His Gly Leu Pro Asp Pro Gly Ser Leu Leu		
230	235	240
Val His Ser Phe Gln Gln Leu Gly Arg Ile Asp Ser Leu Ser Glu		
245	250	255
Gln Ile Ser Phe Leu Glu Glu Gln Leu Gly Ser Cys Ser Cys Lys		
260	265	270
Lys Asp Ser		

<210> 511

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 511

tggagcagca atatgccagc c 21

<210> 512

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 512

ttttccactc ctgtcgggtt gg 22

<210> 513

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 513
ggtgacactt gccagtcaga tgtggatgaa tgcagtgcta ggaggg 46

<210> 514
<211> 2690
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> 2039-2065
<223> unknown base

<400> 514
ggttgccaca gctggtttag ggccccgacc actggggccc cttgtcagga 50
ggagacagcc tccccggccg gggaggacaa gtcgctgcca cctttggctg 100
ccgacgtgat tccctgggac ggtccgtttc ctgccgtcag ctgccggccg 150
agttgggtct ccgtgtttca ggccggctcc cccttcctgg tctcccttct 200
cccgtggggc cggtttatcg ggaggagatt gtcttcagg gctagcaatt 250
ggacttttga tgatgtttga ccagcggca ggaatagcag gcaacgtgat 300
ttcaaagctg ggctcagcct ctgtttcttc tctcgtgtaa tcgaaaacc 350
cattttggag caggaattcc aatcatgtct gtgatggtgg tgagaaagaa 400
ggtgacacgg aaatgggaga aactcccagg caggaacacc ttttgcgtg 450
atggccgcgt catgatggcc cggcaaaagg gcattttcta cctgaccott 500
ttcctcatcc tggggacatg tacactcttc ttgcctttg agtgccgcta 550
cctggctgtt cagctgtctc ctgccatccc tgtatttgct gccatgctct 600
tccttttctc catggctaca ctgttgagga ccagcttcag tgaccctgga 650
gtgattcctc gggcgctacc agatgaagca gctttcatag aaatggagat 700
agaagctacc aatggtgcgg tgccccaggg ccagcgacca ccgcctcgta 750
tcaagaattt ccagataaac aaccagattg tgaaactgaa atactgttac 800
acatgcaaga tcttccggcc tccccgggcc tccattgca gcattctgtga 850
caactgtgtg gagcgcttcg accatcactg cccctgggtg ggggaattgtg 900
ttggaaagag gaactaccgc tactttatcc ttttcatcct ttctctctcc 950
ctcctcacia tctatgtctt cgccttcaac atcgtctatg tggccctcaa 1000
atctttgaaa attggcttct tggagacatt gaaagaaact cctggaactg 1050
ttctagaagt cctcatttgc ttctttacac tctggtccgt cgtgggactg 1100

actggatttc atactttcct cgtggctctc aaccagacaa ccaatgaaga 1150
catcaaagga tcatggacag ggaagaatcg cgtccagaat ccctacagcc 1200
atggcaatat tgtgaagaac tgctgtgaag tgctgtgtgg ccccttgccc 1250
cccagtgtgc tggatcgaag gggtatTTTT ccactggagg aaagtggaag 1300
tcgacctccc agtactcaag agaccagtag cagcctcttg ccacagagcc 1350
cagccccac agaacacctg aactcaaatt agatgccgga ggacagcagc 1400
actcccgaag agatgccacc tccagagccc ccagagccac cacaggaggc 1450
agctgaagct gagaagtagc ctatctatgg aagagacttt tgtttgtgtt 1500
taattagggc tatgagagat ttcaggtgag aagttaaacc tgagacagag 1550
agcaagtaag ctgtcccttt taactgtttt tcttttgtct ttagtcaccc 1600
agttgcacac tggcattttc ttgctgcaag cttttttaaa tttctgaact 1650
caaggcagtg gcagaagatg tcagtcacct ctgataactg gaaaaatggg 1700
tctcttgggc cctggcactg gttctccatg gcctcagcca cagggtcccc 1750
ttggaccccc tctcttccct ccagatccca gccctcctgc ttggggtcac 1800
tggtctcatt ctggggctaa aagtttttga gactggctca aatcctcca 1850
agctgctgca cgtgctgagt ccagaggcag tcacagagac ctctggccag 1900
gggatccctaa ctgggttctt ggggtcttca ggactgaaga ggaggagag 1950
tggggtcaga agattctcct ggccaccaag tgccagcatt gccacaaaat 2000
ccttttagga atgggacagg taccttcac ttgttgtann nnnnnnnnn 2050
nnnnnnnnnn nnnnnttggt tttccttttg actcctgctc ccattaggag 2100
caggaatggc agtaataaaa gtctgcactt tggtcatttc ttttctcag 2150
aggaagcccg agtgctcact taaacactat cccctcagac tccctgtgtg 2200
aggcctgcag aggccctgaa tgcacaaatg ggaaaccaag gcacagagag 2250
gctctcctct cctctcctct ccccgatgt accctcaaaa aaaaaaaaaat 2300
gctaaccagt tcttcatta agcctcggct gagtgaggga aagcccagca 2350
ctgctgccct ctgggtaac tcaccctaag gcctcgccc acctctggct 2400
atggtaacca cactgggggc ttctccaag ccccgctctt ccagcacttc 2450
caccggcaga gtcccagagc cacttcaccc tgggggtggg ctgtggcccc 2500
cagtcagctc tgctcaggac ctgctctatt tcagggaaga agatttatgt 2550

attatatgtg gctatatttc ctagagcacc tgtgttttcc tctttctaag 2600
ccagggctcct gtctggatga cttatgcggt gggggagtgt aaaccggaac 2650
ttttcatcta tttgaaggcg attaaactgt gtctaatagca 2690

<210> 515
<211> 364
<212> PRT
<213> Homo sapiens

<400> 515
Met Ser Val Met Val Val Arg Lys Lys Val Thr Arg Lys Trp Glu
1 5 10 15
Lys Leu Pro Gly Arg Asn Thr Phe Cys Cys Asp Gly Arg Val Met
20 25 30
Met Ala Arg Gln Lys Gly Ile Phe Tyr Leu Thr Leu Phe Leu Ile
35 40 45
Leu Gly Thr Cys Thr Leu Phe Phe Ala Phe Glu Cys Arg Tyr Leu
50 55 60
Ala Val Gln Leu Ser Pro Ala Ile Pro Val Phe Ala Ala Met Leu
65 70 75
Phe Leu Phe Ser Met Ala Thr Leu Leu Arg Thr Ser Phe Ser Asp
80 85 90
Pro Gly Val Ile Pro Arg Ala Leu Pro Asp Glu Ala Ala Phe Ile
95 100 105
Glu Met Glu Ile Glu Ala Thr Asn Gly Ala Val Pro Gln Gly Gln
110 115 120
Arg Pro Pro Pro Arg Ile Lys Asn Phe Gln Ile Asn Asn Gln Ile
125 130 135
Val Lys Leu Lys Tyr Cys Tyr Thr Cys Lys Ile Phe Arg Pro Pro
140 145 150
Arg Ala Ser His Cys Ser Ile Cys Asp Asn Cys Val Glu Arg Phe
155 160 165
Asp His His Cys Pro Trp Val Gly Asn Cys Val Gly Lys Arg Asn
170 175 180
Tyr Arg Tyr Phe Tyr Leu Phe Ile Leu Ser Leu Ser Leu Leu Thr
185 190 195
Ile Tyr Val Phe Ala Phe Asn Ile Val Tyr Val Ala Leu Lys Ser
200 205 210
Leu Lys Ile Gly Phe Leu Glu Thr Leu Lys Glu Thr Pro Gly Thr
215 220 225
Val Leu Glu Val Leu Ile Cys Phe Phe Thr Leu Trp Ser Val Val

230	235	240
Gly Leu Thr Gly Phe His Thr Phe Leu Val Ala Leu Asn Gln Thr		
245	250	255
Thr Asn Glu Asp Ile Lys Gly Ser Trp Thr Gly Lys Asn Arg Val		
260	265	270
Gln Asn Pro Tyr Ser His Gly Asn Ile Val Lys Asn Cys Cys Glu		
275	280	285
Val Leu Cys Gly Pro Leu Pro Pro Ser Val Leu Asp Arg Arg Gly		
290	295	300
Ile Leu Pro Leu Glu Glu Ser Gly Ser Arg Pro Pro Ser Thr Gln		
305	310	315
Glu Thr Ser Ser Ser Leu Leu Pro Gln Ser Pro Ala Pro Thr Glu		
320	325	330
His Leu Asn Ser Asn Glu Met Pro Glu Asp Ser Ser Thr Pro Glu		
335	340	345
Glu Met Pro Pro Pro Glu Pro Pro Glu Pro Pro Gln Glu Ala Ala		
350	355	360
Glu Ala Glu Lys		

<210> 516

<211> 255

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 36, 38, 88, 118, 135, 193, 213, 222

<223> unknown base

<400> 516

aaaaccctgt attttttaca atgcaaata gacaatnancc tggaggtctt 50

tgaattaggt attataggga tgggtggggtt gatttttntt cctggaggct 100

tttggttttg gactctcnct ttctcccaca gacncttcg accatcactg 150

cccctgggtg gggaattgtg ttggaaagag gaactaccgc tanttctacc 200

tcttcactct ttntctctcc cncctcacia tctatgtctt cgccttcaac 250

atcgt 255

<210> 517

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 517

caacgtgatt tcaaagctgg gctc 24

<210> 518

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 518

gcctcgtatc aagaatttcc 20

<210> 519

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 519

agtggaagtc gacctccc 18

<210> 520

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 520

ctcacctgaa atctctcata gccc 24

<210> 521

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 521

cgcaaaaccc attttgggag caggaattcc aatcatgtct gtgatggtgg 50

<210> 522

<211> 1679

<212> DNA

<213> Homo sapiens

<400> 522

gttgtgtcct tcagcaaac agtggattta aatctccttg cacaagcttg 50

agagcaacac aatctatcag gaaagaaaga aagaaaaaaa ccgaacctga 100

caaaaaagaa	gaaaaagaag	aagaaaaaaa	atcatgaaaa	ccatccagcc	150
aaaaatgcac	aattctatct	cttgggcaat	cttcacgggg	ctggctgctc	200
tgtgtctctt	ccaaggagtg	cccgtgcgca	gcggagatgc	caccttcccc	250
aaagctatgg	acaacgtgac	ggtcgggcag	ggggagagcg	ccaccctcag	300
gtgcactatt	gacaaccggg	tcaccggggt	ggcctggcta	aaccgcagca	350
ccatcctcta	tgctgggaat	gacaagtggg	gcctggatcc	tcgcgtggtc	400
cttctgagca	acacccaaac	gcagtacagc	atcgagatcc	agaacgtgga	450
tgtgtatgac	gagggccctt	acacctgctc	ggtgacagaca	gacaaccacc	500
caaagacctc	tagggtccac	ctcattgtgc	aagtatctcc	caaaattgta	550
gagatttctt	cagatatctc	cattaatgaa	gggaacaata	ttagcctcac	600
ctgcatagca	actggtagac	cagagcctac	ggttacttgg	agacacatct	650
ctcccaaagc	ggttggtctt	gtgagtgaag	acgaatactt	ggaaattcag	700
ggcatcaccc	gggagcagtc	aggggactac	gagtgcagtg	cctccaatga	750
cgtggccgcg	cccgtggtac	ggagagtaaa	ggtcaccgtg	aactatccac	800
catacatctc	agaagccaag	ggtacaggtg	tccccgtggg	acaaaagggg	850
acactgcagt	gtgaagcctc	agcagtcccc	tcagcagaat	tccagtggta	900
caaggatgac	aaaagactga	ttgaaggaaa	gaaaggggtg	aaagtggaaa	950
acagaccttt	cctctcaaaa	ctcatottct	tcaatgtctc	tgaacatgac	1000
tatgggaact	acacttgctg	ggcctccaac	aagctggggc	acaccaatgc	1050
cagcatcatg	ctatttggtc	caggcgccgt	cagcgagggtg	agcaacggca	1100
cgctcaggag	ggcaggctgc	gtctggctgc	tgcctcttct	ggtcttgcac	1150
ctgcttctca	aattttgatg	tgagtgccac	ttccccaccc	gggaaaggct	1200
gccgccacca	ccaccaccaa	cacaacagca	atggcaacac	cgacagcaac	1250
caatcagata	tatacaaatg	aaattagaag	aaacacagcc	tcatgggaca	1300
gaaatttgag	ggaggggaac	aaagaatact	ttggggggaa	aagagtttta	1350
aaaaagaaat	tgaaaattgc	cttgacagata	tttaggtaca	atggagtttt	1400
cttttcccaa	acgggaagaa	cacagcacac	ccggcttggg	cccactgcaa	1450
gctgcacgtg	gcaacctctt	tggtgccagt	gtgggcaagg	gctcagcctc	1500
tctgcccaca	gagtgcctcc	acgtggaaca	ttctggagct	ggccatccca	1550

aattcaatca gtccatagag acgaacagaa tgagaccttc cggcccaagc 1600
 gtggcgctgc gggcactttg gtagactgtg ccaccacggc gtgtgttgtg 1650
 aaacgtgaaa taaaaagagc aaaaaaaaaa 1679

<210> 523
 <211> 344
 <212> PRT
 <213> Homo sapiens

<400> 523

Met	Lys	Thr	Ile	Gln	Pro	Lys	Met	His	Asn	Ser	Ile	Ser	Trp	Ala	
1				5					10					15	
Ile	Phe	Thr	Gly	Leu	Ala	Ala	Leu	Cys	Leu	Phe	Gln	Gly	Val	Pro	
				20					25					30	
Val	Arg	Ser	Gly	Asp	Ala	Thr	Phe	Pro	Lys	Ala	Met	Asp	Asn	Val	
				35					40					45	
Thr	Val	Arg	Gln	Gly	Glu	Ser	Ala	Thr	Leu	Arg	Cys	Thr	Ile	Asp	
				50					55					60	
Asn	Arg	Val	Thr	Arg	Val	Ala	Trp	Leu	Asn	Arg	Ser	Thr	Ile	Leu	
				65					70					75	
Tyr	Ala	Gly	Asn	Asp	Lys	Trp	Cys	Leu	Asp	Pro	Arg	Val	Val	Leu	
				80					85					90	
Leu	Ser	Asn	Thr	Gln	Thr	Gln	Tyr	Ser	Ile	Glu	Ile	Gln	Asn	Val	
				95					100					105	
Asp	Val	Tyr	Asp	Glu	Gly	Pro	Tyr	Thr	Cys	Ser	Val	Gln	Thr	Asp	
				110					115					120	
Asn	His	Pro	Lys	Thr	Ser	Arg	Val	His	Leu	Ile	Val	Gln	Val	Ser	
				125					130					135	
Pro	Lys	Ile	Val	Glu	Ile	Ser	Ser	Asp	Ile	Ser	Ile	Asn	Glu	Gly	
				140					145					150	
Asn	Asn	Ile	Ser	Leu	Thr	Cys	Ile	Ala	Thr	Gly	Arg	Pro	Glu	Pro	
				155					160					165	
Thr	Val	Thr	Trp	Arg	His	Ile	Ser	Pro	Lys	Ala	Val	Gly	Phe	Val	
				170					175					180	
Ser	Glu	Asp	Glu	Tyr	Leu	Glu	Ile	Gln	Gly	Ile	Thr	Arg	Glu	Gln	
				185					190					195	
Ser	Gly	Asp	Tyr	Glu	Cys	Ser	Ala	Ser	Asn	Asp	Val	Ala	Ala	Pro	
				200					205					210	
Val	Val	Arg	Arg	Val	Lys	Val	Thr	Val	Asn	Tyr	Pro	Pro	Tyr	Ile	
				215					220					225	
Ser	Glu	Ala	Lys	Gly	Thr	Gly	Val	Pro	Val	Gly	Gln	Lys	Gly	Thr	

	230		235		240
Leu Gln Cys Glu	Ala Ser Ala Val Pro	Ser Ala Glu Phe Gln Trp			
	245	250		255	
Tyr Lys Asp Asp	Lys Arg Leu Ile Glu	Gly Lys Lys Gly Val Lys			
	260	265		270	
Val Glu Asn Arg	Pro Phe Leu Ser Lys	Leu Ile Phe Phe Asn Val			
	275	280		285	
Ser Glu His Asp	Tyr Gly Asn Tyr Thr	Cys Val Ala Ser Asn Lys			
	290	295		300	
Leu Gly His Thr	Asn Ala Ser Ile Met	Leu Phe Gly Pro Gly Ala			
	305	310		315	
Val Ser Glu Val	Ser Asn Gly Thr Ser	Arg Arg Ala Gly Cys Val			
	320	325		330	
Trp Leu Leu Pro	Leu Leu Val Leu His	Leu Leu Leu Lys Phe			
	335	340			

<210> 524

<211> 503

<212> DNA

<213> Homo sapiens

<400> 524

gaaaaaaat catgaaaacc atccagccaa aaatgcacaa ttctatctct 50

tgggcaatct tcacggggct ggctgctctg tgtctcttcc aaggagtgcc 100

cgtgogcagc ggagatgcc a cttcccca agctatggac aacgtgacgg 150

tccggcaggg ggagagcgcc accctcaggt gcactattga caaccgggtc 200

accgggtgg cctgggctaaa ccgcagcacc atcctctatg ctgggaatga 250

caagtgggtg ctggatcctc gcgtggctct tctgagcaac acccaaacgc 300

agtacagcat cgagatccag aacgtggatg tgtatgacga gggcccttac 350

acctgctcgg tgcagacaga caaccacca aagacctcta gggccacct 400

cattgtgcaa gtatctccca aaattgtaga gatttcttca gatatctcca 450

ttaatgaagg gaacaatatt agcctcacct gcatagcaac tggtagacca 500

gag 503

<210> 525

<211> 2602

<212> DNA

<213> Homo sapiens

<400> 525

atggctgggt acggcggggc cgggcagggg accggggccg cggcccggga 50

Glu	Leu	Val	Leu	Ala	Gly	Ala	Ser	Leu	Leu	Leu	Ala	Ala	Leu	Leu		35	40	45
Leu	Gly	Cys	Leu	Val	Ala	Leu	Gly	Val	Gln	Tyr	His	Arg	Asp	Pro		50	55	60
Ser	His	Ser	Thr	Cys	Leu	Thr	Glu	Ala	Cys	Ile	Arg	Val	Ala	Gly		65	70	75
Lys	Ile	Leu	Glu	Ser	Leu	Asp	Arg	Gly	Val	Ser	Pro	Cys	Glu	Asp		80	85	90
Phe	Tyr	Gln	Phe	Ser	Cys	Gly	Gly	Trp	Ile	Arg	Arg	Asn	Pro	Leu		95	100	105
Pro	Asp	Gly	Arg	Ser	Arg	Trp	Asn	Thr	Phe	Asn	Ser	Leu	Trp	Asp		110	115	120
Gln	Asn	Gln	Ala	Ile	Leu	Lys	His	Leu	Leu	Glu	Asn	Thr	Thr	Phe		125	130	135
Asn	Ser	Ser	Ser	Glu	Ala	Glu	Gln	Lys	Thr	Gln	Arg	Phe	Tyr	Leu		140	145	150
Ser	Cys	Leu	Gln	Val	Glu	Arg	Ile	Glu	Glu	Leu	Gly	Ala	Gln	Pro		155	160	165
Leu	Arg	Asp	Leu	Ile	Glu	Lys	Ile	Gly	Gly	Trp	Asn	Ile	Thr	Gly		170	175	180
Pro	Trp	Asp	Gln	Asp	Asn	Phe	Met	Glu	Val	Leu	Lys	Ala	Val	Ala		185	190	195
Gly	Thr	Tyr	Arg	Ala	Thr	Pro	Phe	Phe	Thr	Val	Tyr	Ile	Ser	Ala		200	205	210
Asp	Ser	Lys	Ser	Ser	Asn	Ser	Asn	Val	Ile	Gln	Val	Asp	Gln	Ser		215	220	225
Gly	Leu	Phe	Leu	Pro	Ser	Arg	Asp	Tyr	Tyr	Leu	Asn	Arg	Thr	Ala		230	235	240
Asn	Glu	Lys	Val	Leu	Thr	Ala	Tyr	Leu	Asp	Tyr	Met	Glu	Glu	Leu		245	250	255
Gly	Met	Leu	Leu	Gly	Gly	Arg	Pro	Thr	Ser	Thr	Arg	Glu	Gln	Met		260	265	270
Gln	Gln	Val	Leu	Glu	Leu	Glu	Ile	Gln	Leu	Ala	Asn	Ile	Thr	Val		275	280	285
Pro	Gln	Asp	Gln	Arg	Arg	Asp	Glu	Glu	Lys	Ile	Tyr	His	Lys	Met		290	295	300
Ser	Ile	Ser	Glu	Leu	Gln	Ala	Leu	Ala	Pro	Ser	Met	Asp	Trp	Leu		305	310	315
Glu	Phe	Leu	Ser	Phe	Leu	Leu	Ser	Pro	Leu	Glu	Leu	Ser	Asp	Ser				

320	325	330
Glu Pro Val Val Val Tyr Gly Met Asp	Tyr Leu Gln Gln Val Ser	
335	340	345
Glu Leu Ile Asn Arg Thr Glu Pro Ser	Ile Leu Asn Asn Tyr Leu	
350	355	360
Ile Trp Asn Leu Val Gln Lys Thr Thr	Ser Ser Leu Asp Arg Arg	
365	370	375
Phe Glu Ser Ala Gln Glu Lys Leu Leu	Glu Thr Leu Tyr Gly Thr	
380	385	390
Lys Lys Ser Cys Val Pro Arg Trp Gln	Thr Cys Ile Ser Asn Thr	
395	400	405
Asp Asp Ala Leu Gly Phe Ala Leu Gly	Ser Leu Phe Val Lys Ala	
410	415	420
Thr Phe Asp Arg Gln Ser Lys Glu Ile	Ala Glu Gly Met Ile Ser	
425	430	435
Glu Ile Arg Thr Ala Phe Glu Glu Ala	Leu Gly Gln Leu Val Trp	
440	445	450
Met Asp Glu Lys Thr Arg Gln Ala Ala	Lys Glu Lys Ala Asp Ala	
455	460	465
Ile Tyr Asp Met Ile Gly Phe Pro Asp	Phe Ile Leu Glu Pro Lys	
470	475	480
Glu Leu Asp Asp Val Tyr Asp Gly Tyr	Glu Ile Ser Glu Asp Ser	
485	490	495
Phe Phe Gln Asn Met Leu Asn Leu Tyr	Asn Phe Ser Ala Lys Val	
500	505	510
Met Ala Asp Gln Leu Arg Lys Pro Pro	Ser Arg Asp Gln Trp Ser	
515	520	525
Met Thr Pro Gln Thr Val Asn Ala Tyr	Tyr Leu Pro Thr Lys Asn	
530	535	540
Glu Ile Val Phe Pro Ala Gly Ile Leu	Gln Ala Pro Phe Tyr Ala	
545	550	555
Arg Asn His Pro Lys Ala Leu Asn Phe	Gly Gly Ile Gly Val Val	
560	565	570
Met Gly His Glu Leu Thr His Ala Phe	Asp Asp Gln Gly Arg Glu	
575	580	585
Tyr Asp Lys Glu Gly Asn Leu Arg Pro	Trp Trp Gln Asn Glu Ser	
590	595	600
Leu Ala Ala Phe Arg Asn His Thr Ala	Cys Met Glu Glu Gln Tyr	
605	610	615

Asn	Gln	Tyr	Gln	Val	Asn	Gly	Glu	Arg	Leu	Asn	Gly	Arg	Gln	Thr
				620					625					630
Leu	Gly	Glu	Asn	Ile	Thr	Asp	Asn	Gly	Gly	Leu	Lys	Ala	Ala	Tyr
				635					640					645
Asn	Ala	Tyr	Lys	Ala	Trp	Leu	Arg	Lys	His	Gly	Glu	Glu	Gln	Gln
				650					655					660
Leu	Pro	Ala	Val	Gly	Leu	Thr	Asn	His	Gln	Leu	Phe	Phe	Val	Gly
				665					670					675
Phe	Ala	Gln	Val	Trp	Cys	Ser	Val	Arg	Thr	Pro	Glu	Ser	Ser	His
				680					685					690
Glu	Gly	Leu	Val	Thr	Asp	Pro	His	Ser	Pro	Ala	Arg	Phe	Arg	Val
				695					700					705
Leu	Gly	Thr	Leu	Ser	Asn	Ser	Arg	Asp	Phe	Leu	Arg	His	Phe	Gly
				710					715					720
Cys	Pro	Val	Gly	Ser	Pro	Met	Asn	Pro	Gly	Gln	Leu	Cys	Glu	Val
				725					730					735

Trp

<210> 527

<211> 4308

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 1478, 3978, 4057-4058, 4070

<223> unknown base

<400> 527

gcccggccct cggccctccg cactcccggc tccctccctc cgcccgcctcc 50

cgcgccctcc tccctccctc ctccccagct gtcccgttcg cgatcatgccg 100

agcctcccgg ccccgccggc cccgctgctg ctccctcgggc tgctgctgct 150

cggctcccgg cgggcccggc gcgcccggcc agagcccccc gtgctgccc 200

tccgttctga gaaggagccg ctgcccgttc ggggagcggc aggtaggtgg 250

gcgcccgggg gaggcgcggg cggggagtcg ggctcggggc gaggcagcgc 300

cagcccggag ggggcgcggg gcgcaggtgg ctcggcgcgg cgggcggccc 350

ggaggggtgg cgggggcaga agggcgcggt gcctgggacc cgggacccgc 400

gggcagcccc cggggcgcca cagggcgcca gctgggcagc ggcctccagc 450

caagcccgtc ccgcaggct gcaccttcgg cgggaaggtc tatgccttgg 500

gcctctccac tccctctccc ctctccaac attccctccc ttctgtctcc 3450
 agcagcccca gagaccagaa ctgatocaga gctggagaaa gaagccgaag 3500
 gctcttaggg agcagccaga gggccaagtg accaagagga tggggcctga 3550
 gctggggaag ggggtggcatc gaggaccttc ttgcattctc ctgtgggaag 3600
 cccagtgcct ttgtctctct gtctgtctc tactcccacc cccactacct 3650
 ctgggaacca cagctccaca agggggagag gcagctgggc cagaccgagg 3700
 tcacagccac tccaagtcct gccctgccac cctcggcctc tgtcctgga 3750
 gccccacccc tttcttctctg tacataatgt cactggcttg ttgggatttt 3800
 taatttatct tcactcagca ccaagggccc cggacactcc actcctgctg 3850
 cccctgagct gagcagagtc attattggag agttttgtat ttattaaaac 3900
 atttcttttt cagtcttttg gcatgagggt ggctctttgt ggccaggaac 3950
 ctgagtgggg cctggtggag aaggggcnga gagtaggagg tgagagagag 4000
 gagctctgac acttggggag ctgaaagaga cctggagagg cagaggatag 4050
 cgtggcnntt ggctggcatn cctgggttcc gcagaggggc tggggatggt 4100
 tcttgagatg gtctagagac tcaagaattt agggaagtag aagcaggatt 4150
 ttgactcaag tttagtttcc cacatcgctg gcctgtttgc tgacttcatg 4200
 tttgaagttg ctccagagag agaatcaaag gtgtcaccag cccctctctc 4250
 cctccttccc ttcccttccc tttctttccc tcccctcccc tcccctcccc 4300
 tcccctcc 4308

<210> 528

<211> 1285

<212> DNA

<213> Homo sapiens

<400> 528

ggccgagcgg ggggtgctgcg cggcgccgt gatggctggt gacggcgggg 50
 ccgggcaggg gaccggggcc gcggcccggg agcgggccag ctgccgggag 100
 ccctgaatca ccgcctggcc cgactccacc atgaacgtcg cgctgcagga 150
 gctgggagct ggcagcaacg tgggattcca gaaggggaca agacagctgt 200
 taggctcacg cacgcagctg gagctggtct tagcaggtgc ctctctactg 250
 ctggctgcac tgcttctggg ctgccttggt gccctagggg tccagtacca 300
 cagagaccca tcccacagca cctgccttac agaggcctgc attcagtggt 350

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000

ctggaaaaat cctggagtcc ctggaccgag gggtagagccc ctgtgaggac 400
ttttaccagt tctcctgtgg gggctggatt cggaggaacc ccctgcccga 450
tgggcgttct cgctggaaca ccttcaacag cctctgggac caaaaccagg 500
ccatactgaa gcacctgctt gaaaacacca ccttcaactc cagcagtga 550
gctgagcaga agacacagcg cttctaccta tcttgccctac aggtggagcg 600
cattgaggag ctgggagccc agccactgag agacctcatt gagaagattg 650
gtggttggaa cattaogggg ccctgggacc aggacaactt tatggagggtg 700
ttgaaggcag tagcagggac ctacagggcc accccattct tcaccgtcta 750
catcagtgcc gactctaaga gttccaacag caatgttatc caggtggacc 800
agtctgggct ctttctgccc tctcgggatt actacttaaa cagaactgcc 850
aatgagaaag taaggaacat cttccgaacc cccatcccta ccctggctg 900
agctgggctg atccctgttg acttttccct ttgccaaggg tcagagcagg 950
gaaggtgagc ctatcctgtc acctagtga caaactgccc ctcttttctt 1000
tcttcttttc ttctccctc cctccctttc ttccctttt ccttccttcc 1050
ttcctcttat tcttctagta ggtttcatag acacctactg tgtgccaggt 1100
ccagtggggg aattcggaga tataagtttc cgagccattg ccacaggaag 1150
cgttcagtgt cgatgggttc atggacctag ataggctgat aacaaagctc 1200
acaagagggg cctgaggatt caggagagac ttatggagcc agcaaagtct 1250
tcctgaagag attgcatttg agccaggtcc tgtag 1285

<210> 529

<211> 1380

<212> DNA

<213> Homo sapiens

<400> 529

atgcctacta ccttccaact aagaatgaga tcgtcttccc cgctggcatc 50
ctgcaggccc ctttctatgc ccgcaaccac cccaaggccc tgaacttcgg 100
tggtcatcgg gtggtcatgg gccatgagtt gacgcatgcc tttgatgacc 150
aagggcgcgga gtatgacaaa gaagggaacc tgcggccctg gtggcagaat 200
gagtccctgg cagccttccg gaaccacacg gcctgcatgg aggaacagta 250
caatcaatac caggtcaatg gggagaggct caacggccgc cagacgctgg 300
gggagaacat tgctgacaac ggggggctga aggtgccta caatgcttac 350

aaagcatggc	tgagaaagca	tggggaggag	cagcaactgc	cagccgtggg	400
gctcaccaac	caccagctct	tcttcgtggg	atttgcccag	gtgtggtgct	450
cggtccgcac	accagagagc	tctcacgagg	ggctggtgac	cgacccccac	500
agccctgccc	gcttccgcgt	gctgggcact	ctctccaact	cccgtgactt	550
cctgcggcac	ttcggtgcc	ctgtcggtc	ccccatgaac	ccagggcagc	600
tgtgtgaggt	gtggtagacc	tggatcaggg	gagaaatggc	cagctgtcac	650
cagacctggg	gcagctctcc	tgacaaagct	gtttgctctt	gggttggggag	700
gaagcaaattg	caagctgggc	tgggtctagt	ccctccccc	cacaggtgac	750
atgagtacag	accctcctca	atcaccacat	tgtgcctctg	ctttgggggt	800
gcccctgcct	ccagcagagc	cccaccatt	cactgtgaca	tctttccgtg	850
tcaccctgcc	tggaagaggt	ctgggtgggg	agggcagttc	ccataggaag	900
gagtctgcct	cttctgtccc	caggctcact	cagcctggcg	gccatggggc	950
ctgccgtgcc	tgccccactg	tgaccacag	gcctgggttg	tgtacctcct	1000
ggacttctcc	ccaggctcac	tcagtgcgca	cttaggggtg	gactcagctc	1050
tgtctggctc	accctcacgg	gctaccccc	cctcaccctg	tgctccttgt	1100
gccactgctc	ccagtgtctg	tgctgacctt	cactgacagc	tcctagtgga	1150
agcccaaggg	cctctgaaag	cctcctgctg	cccactgttt	ccctgggctg	1200
agaggggaag	tgcatatgtg	tagcgggtac	tggttcctgt	gtcttagggc	1250
acaagcctta	gcaaattgatt	gattctccct	ggacaaagca	ggaaagcaga	1300
tagagcaggg	aaaaggaaga	acagagttta	tttttacaga	aaagaggggtg	1350
ggaggggtgtg	gtcttgcccc	ttataggacc			1380

<210> 530

<211> 39

<212> DNA

<213> Artificial Sequence

 $\langle 220 \rangle$

<223> Synthetic oligonucleotide probe

<400> 530

gaagcagtgc agccagcagt agagagggcac ctgctaaga 39

<210> 531

<211> 24

<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 531
acgcagctgg agctggtctt agca 24

<210> 532
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 532
ggtactggac ccctagggcc acaa 24

<210> 533
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 533
cctcccagcc gagaccagtg g 21

<210> 534
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 534
ggtoctataa gggccaagac c 21

<210> 535
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 535
gactagttct agatcgcgag cggccgccct tttttttttt tttt 44

<210> 536
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 536
cggacgcgtg ggtcga 16

<210> 537
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 537
cggccgtgat ggctggtgac g 21

<210> 538
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 538
ggcagactcc ttcctatggg 20

<210> 539
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 539
ggcacttcat ggtccttgaa a 21

<210> 540
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 540
cggatgtgtg tgaggccatg cc 22

<210> 541
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 541
gaaagtaacc acggaggtca agat 24

<210> 542
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 542
cctcctccga gactgaaagc t 21

<210> 543
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 543
tcgcgttgct ttttctcgcg tg 22

<210> 544
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 544
gcgtgcgtca ggttcca 17

<210> 545
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 545
cgttcgtgca gcgtgtgta 19

<210> 546
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 546
cttcctcacc acctgcgacg gg 22

<210> 547
<211> 23
<212> DNA

<213> Artificial Sequence
 <220>
 <223> Synthetic oligonucleotide probe
 <400> 547
 ggtaggcggt cctatagatg gtt 23
 <210> 548
 <211> 23
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic oligonucleotide probe
 <400> 548
 agatgtggat gaatgcagtg cta 23
 <210> 549
 <211> 24
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic oligonucleotide probe
 <400> 549
 atcaacaccg ccggcagtta ctgg 24
 <210> 550
 <211> 23
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic oligonucleotide probe
 <400> 550
 acagagtgta ccgtctgcag aca 23
 <210> 551
 <211> 19
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic oligonucleotide probe
 <400> 551
 agcctcctgg tgcactcct 19
 <210> 552
 <211> 25
 <212> DNA
 <213> Artificial Sequence
 <220>

<223> Synthetic oligonucleotide probe

<400> 552

cgactccctg agcgagcaga tttcc 25

<210> 553

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 553

gctgggcagt cacgagtctt 20

<210> 554

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 554

aatcctccat ctcagatctt ccag 24

<210> 555

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 555

cctcagcggc aacagccggc c 21

<210> 556

<211> 15

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 556

tgggccaaagg gctgc 15

<210> 557

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 557

tggtggataa ccaacaagat gg 22

<210> 558

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 558

gagtcctgcat ccacaccact cttaaagttc tcaa 34

<210> 559

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 559

caggtgctct tttcagtcac gttt 24

<210> 560

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 560

tggccattct caggacaaga g 21

<210> 561

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic oligonucleotide probe

<400> 561

cagtaatgcc atttgccctgc ctgcat 26

<210> 562

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 562

tgcctggaat cacatgaca 19

<210> 563

<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic oligonucleotide probe

<400> 563
tgtggcacag acccaatcct 20

<210> 564
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 564
gaccctgaag gcctccggcc t 21

<210> 565
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 565
gagagaggga aggcagctat gtc 23

<210> 566
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 566
cagcccctct ctttcacctg t 21

<210> 567
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 567
ccatcctgtg cagctgacac acagc 25

<210> 568
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 568
gccaggctat gaggtcctt 20

<210> 569
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 569
ttcaagttcc tgaagccgat tat 23

<210> 570
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 570
ccaacttccc tccccagtc cct 23

<210> 571
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 571
ttggggaagg tagaatttcc ttgtat 26

<210> 572
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 572
cccttctgcc tccaattct 20

<210> 573
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 573
tctcctccgt ccccttcctc cact 24

<210> 574
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 574
tgagccactg ccttgcatta 20

<210> 575
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 575
tctgcagacg cgatggataa 20

<210> 576
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 576
ccgaaaataa aacatcgccc cttctg 26

<210> 577
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 577
cacgtggcct ttcacactga 20

<210> 578
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 578
acttgtgaca gcagtatgct gtctt 25

<210> 579
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 579
aagcttctgt tcaatcccag cggtcc 26

<210> 580
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 580
atgcacaggc tttttctggt aa 22

<210> 581
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 581
gcaggaaacc ttcgaaatctg ag 22

<210> 582
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 582
acacctgagg cacctgagag aggaactct 29

<210> 583
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 583
gacagcccag tacacctgca a 21

<210> 584
<211> 21
<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 584

gacggctgga tctgtgagaa a 21

<210> 585

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 585

cacaactgct gacccccgcc a 21

<210> 586

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 586

ccaggatacg acatgctgca 20

<210> 587

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 587

aaactccaac ctgtatcaga tgca 24

<210> 588

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 588

cccccaagcc cttagactct aagcc 25

<210> 589

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 589

gacccggcac cttgctaac 19

<210> 590

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 590

ggacggtcag tcaggatgac a 21

<210> 591

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 591

ttcggcatca tctcttcct ctccc 25

<210> 592

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 592

acaaaaaaaaa gggaacaaaa tacga 25

<210> 593

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 593

ctttgaatag aagacttctg gacaattt 28

<210> 594

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 594

ttgcaactgg gaatatacca cgacatgaga 30

<210> 595

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 595

taggggtgcta atttgtgcta taacct 26

<210> 596

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 596

ggctctgagt ctctgcttga 20

<210> 597

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 597

tccaacaacc attttcctct ggtcc 25

<210> 598

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 598

aagcagtagc cattaacaag tca 23

<210> 599

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 599

caagcgtcca gggtttattga 20

<210> 600

<211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 600
 gactacaagg cgctcagcta 20

 <210> 601
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 601
 ccggctgggt ctactcctc c 21

 <210> 602
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 602
 cgttcgtgca gcgtgtgta 19

 <210> 603
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 603
 cttcctcacc acctgacgacg gg 22

 <210> 604
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 604
 ggtaggcggt cctatagatg gtt 23

 <210> 605
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 605
agatgtggat gaatgcagtg cta 23

<210> 606
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 606
atcaacaccg ccggcagtta ctgg 24

<210> 607
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 607
acagagtgtta ccgtctgcag aca 23

<210> 608
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 608
agcctcctgg tgcactcct 19

<210> 609
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 609
cgactccctg agcgagcaga tttcc 25

<210> 610
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 610
gctgggcagt cacgagtctt 20

<210> 611
<211> 2840
<212> DNA
<213> Homo Sapien

<400> 611
cccacgcgtc cgagccgccc gagaattaga cacactccgg acgcggccaa 50
aagcaaccga gaggagggga ggcaaaaaca ccgaaaaaca aaaagagaga 100
aacaacaccc aacaactggg gtggggggaa gaaagaaaga aaagaaaccc 150
acccacccac caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaatc 200
ctgtggcgcg ccgcctggtt cccgggaaga ctgccagca ccagggggtg 250
ggggagtgcg agctgaaagc tgctggagag tgagcagccc tagcagggat 300
ggacatgatg ctgttggtgc aggggtgctt ttgctcgaac cagtggctgg 350
cggcggtgct cctcagcctg tgctgcctgc taccctcctg cctcccggct 400
ggacagagtg tggacttccc ctgggcggcc gtggacaaca tgatggtcag 450
aaaaggggac acggcgggtc ttaggtgtta tttggaagat ggagcttcaa 500
agggtgcttg gctgaaccgg tcaagtatta tttttgcggg aggtgataag 550
tggtcagtgg atcctcgagt ttcaatttca acattgaata aaagggacta 600
cagcctccag atacagaatg tagatgtgac agatgatggc ccatacacgt 650
gttctgttca gactcaacat acaccagaa caatgcaggt gcatctaact 700
gtgcaagttc ctctaagat atatgacatc tcaaatgata tgaccgtcaa 750
tgaaggaacc aacgtcactc ttacttggtt ggccactggg aaaccagagc 800
cttccatttc ttggcgacac atctcccat cagcaaaacc atttgaaaat 850
ggacaatatt tggacattta tggaattaca agggaccagg ctggggaata 900
tgaatgcagt gcggaaaatg ctgtgtcatt ccagatgtg aggaaagtaa 950
aagttgttgt caactttgct cctactattc aggaaattaa atctggcacc 1000
gtgacccccg gacgcagtgg cctgataaga tgtgaagggt caggtgtgcc 1050
gcctccagcc tttgaatggt acaaaggaga gaagaagctc ttcaatggcc 1100
aacaaggaat tattattcaa aatttttagca caagatccat tctcactgtt 1150
accaacgtga cacaggagca cttcggcaat tatacctgtg tggctgcca 1200
caagctaggc acaaccaatg cgagcctgcc tcttaaccct ccaagtacag 1250

cccagtatgg aattaccggg agcgcctgatg ttctttttctc ctgctggtac 1300
 cttgtgttga cactgtcctc tttcaccagc atattctacc tgaagaatgc 1350
 cattctacaa taaattcaaa gaccataaa aggccttttaa ggattctctg 1400
 aaagtgcctga tggctggatc caatctggta cagtttggtta aaagcagcgt 1450
 gggatataat cagcagtgct tacatgggga tgatgcctt ctgtagaatt 1500
 gctcattatg taaatacttt aattctactc ttttttgatt agctacatta 1550
 ccttgtgaag cagtacacat tgtccttttt ttaagacgtg aaagctctga 1600
 aattactttt agaggatatt aattgtgatt tcatgtttgt aatctacaac 1650
 ttttcaaaag cattcagtca tggctctgcta gggtgcaggc tgtagtttac 1700
 aaaaacgaat attgcagtga atatgtgatt ctttaaggct gcaatacaag 1750
 cattcagttc cctgtttcaa taagagtcaa tccacattta caaagatgca 1800
 tttttttctt ttttgataaa aaagcaaata atattgcctt cagattattt 1850
 cttcaaaata taacacatat ctagattttt ctgcttgcat gatattcagg 1900
 tttcaggaat gagccttgta atataactgg ctgtgcagct ctgcttctct 1950
 ttctgtgaag ttcagcatgg gtgtgccttc atacaataat atttttctct 2000
 ttgtctccaa ctaataataa atgttttgct aaatcttaca atttgaaagt 2050
 aaaaataaac cagagtgatc aagttaaacc atacactatc tctaagtaac 2100
 gaaggagcta ttggactgta aaaatctctt cctgcactga caatgggggt 2150
 tgagaatttt gcccacact aactcagttc ttgtgatgag agacaattta 2200
 ataacagtat agtaaataa ccatatgatt tcttttagttg tagctaaatg 2250
 ttagatccac cgtgggaaat cattcccttt aaaatgacag cacagtccac 2300
 tcaaaggatt gcctagcaat acagcatctt ttcttttcac tagtccaagc 2350
 caaaaatttt aagatgattt gtcagaaagg gcacaaagtc ctatcaccta 2400
 atattacaag agttggttaag cgctcatcat taattttatt ttgtggcagg 2450
 tattatgaca gtgcacctgg agggatatga tatggatatg gacgttccag 2500
 agactataat ggcagaaacc aggttggtta tgaccgctac tcaggaggaa 2550
 attacagaga caattatgac aactgaaatg agacatgcac ataatataga 2600
 tacacaagga ataatttctg atccaggatc gtccttccaa atggctgtat 2650
 ttataaaggt ttttgagct gactgaagc atcttatttt atagtatatc 2700

aaccttttgt ttttaaattg acctgccaaag gtagctgaag acctttttaga 2750
 cagttccatc ttttttttta aattttttct gcctatttaa agacaaatta 2800
 tgggacgttt gtcaaaaaaa aaaaaaaaaa aaaaaaaaaa 2840

<210> 612
 <211> 352
 <212> PRT
 <213> Homo Sapien

<400> 612

Met	Met	Leu	Leu	Val	Gln	Gly	Ala	Cys	Cys	Ser	Asn	Gln	Trp	Leu	1	5	10	15
Ala	Ala	Val	Leu	Leu	Ser	Leu	Cys	Cys	Leu	Leu	Pro	Ser	Cys	Leu	20	25	30	
Pro	Ala	Gly	Gln	Ser	Val	Asp	Phe	Pro	Trp	Ala	Ala	Val	Asp	Asn	35	40	45	
Met	Met	Val	Arg	Lys	Gly	Asp	Thr	Ala	Val	Leu	Arg	Cys	Tyr	Leu	50	55	60	
Glu	Asp	Gly	Ala	Ser	Lys	Gly	Ala	Trp	Leu	Asn	Arg	Ser	Ser	Ile	65	70	75	
Ile	Phe	Ala	Gly	Gly	Asp	Lys	Trp	Ser	Val	Asp	Pro	Arg	Val	Ser	80	85	90	
Ile	Ser	Thr	Leu	Asn	Lys	Arg	Asp	Tyr	Ser	Leu	Gln	Ile	Gln	Asn	95	100	105	
Val	Asp	Val	Thr	Asp	Asp	Gly	Pro	Tyr	Thr	Cys	Ser	Val	Gln	Thr	110	115	120	
Gln	His	Thr	Pro	Arg	Thr	Met	Gln	Val	His	Leu	Thr	Val	Gln	Val	125	130	135	
Pro	Pro	Lys	Ile	Tyr	Asp	Ile	Ser	Asn	Asp	Met	Thr	Val	Asn	Glu	140	145	150	
Gly	Thr	Asn	Val	Thr	Leu	Thr	Cys	Leu	Ala	Thr	Gly	Lys	Pro	Glu	155	160	165	
Pro	Ser	Ile	Ser	Trp	Arg	His	Ile	Ser	Pro	Ser	Ala	Lys	Pro	Phe	170	175	180	
Glu	Asn	Gly	Gln	Tyr	Leu	Asp	Ile	Tyr	Gly	Ile	Thr	Arg	Asp	Gln	185	190	195	
Ala	Gly	Glu	Tyr	Glu	Cys	Ser	Ala	Glu	Asn	Ala	Val	Ser	Phe	Pro	200	205	210	
Asp	Val	Arg	Lys	Val	Lys	Val	Val	Val	Asn	Phe	Ala	Pro	Thr	Ile	215	220	225	
Gln	Glu	Ile	Lys	Ser	Gly	Thr	Val	Thr	Pro	Gly	Arg	Ser	Gly	Leu				

	230		235		240
Ile Arg Cys Glu	Gly Ala Gly Val Pro	Pro Pro Ala Phe Glu Trp			
	245		250		255
Tyr Lys Gly Glu	Lys Lys Leu Phe Asn	Gly Gln Gln Gly Ile Ile			
	260		265		270
Ile Gln Asn Phe	Ser Thr Arg Ser Ile	Leu Thr Val Thr Asn Val			
	275		280		285
Thr Gln Glu His	Phe Gly Asn Tyr Thr	Cys Val Ala Ala Asn Lys			
	290		295		300
Leu Gly Thr Thr	Asn Ala Ser Leu Pro	Leu Asn Pro Pro Ser Thr			
	305		310		315
Ala Gln Tyr Gly	Ile Thr Gly Ser Ala	Asp Val Leu Phe Ser Cys			
	320		325		330
Trp Tyr Leu Val	Leu Thr Leu Ser Ser	Phe Thr Ser Ile Phe Tyr			
	335		340		345
Leu Lys Asn Ala	Ile Leu Gln				
	350				

<210> 613

<211> 1797

<212> DNA

<213> Homo Sapien

<400> 613

```

agtgggttcga tgggaaggat ctttctccaa gtggttcctc ttgaggggag 50
catttctgct ggctccagga ctttggccat ctataaagct tggcaatgag 100
aaataagaaa attctcaagg aggacgagct cttgagtgag acccaacaag 150
ctgctttttca ccaaattgca atggagcctt tcgaaatcaa tgttccaaag 200
cccaagagga gaaatggggt gaactttctc ctagctgtgg tggatcatcta 250
cctgatcctg ctcaccgctg gcgctgggct gctggtggtc caagttctga 300
atctgcaggc gcggctccgg gtcctggaga tgtatttcct caatgacact 350
ctggcggctg aggacagccc gtccttctcc ttgctgcagt cagcacaccc 400
tgagagaacac ctggctcagg gtgcatcgag gctgcaagtc ctgcaggccc 450
aactcacctg ggtccgcgtc agccatgagc acttgctgca gcgggtagac 500
aacttcactc agaaccaggg gatgttcaga atcaaagggtg aacaaggcgc 550
cccaggtctt caaggtcaca agggggccat gggcatgcct ggtgcccctg 600
gcccgcgggg accacctgct gagaaggagg ccaagggggc tatgggacga 650

```

gatggagcaa caggccccctc gggaccccaa ggcccaccgg gagtcaagg 700
agaggcgggc ctccaaggac cccaggggtgc tccaggggaag caaggagcca 750
ctggcacccc aggaccccaa ggagagaagg gcagcaaagg cgatgggggt 800
ctcattggcc caaaagggga aactggaact aaggagaga aaggagacct 850
gggtctccca ggaagcaaag gggacagggg catgaaagga gatgcagggg 900
tcatggggcc tcctggagcc caggggagta aaggtgactt cgggaggcca 950
ggcccaccag gtttggctgg ttttcctgga gctaaaggag atcaaggaca 1000
acctggactg caggggtgttc cgggccctcc tgggtgcagtg ggacaccag 1050
gtgccaaggg tgagcctggc agtgctggct cccctgggag agcaggactt 1100
ccaggagacc ccgggagtc aggagccaca ggcctgaaag gaagcaaagg 1150
ggacacagga cttcaaggac agcaaggaag aaaaggagaa tcaggagttc 1200
caggccctgc aggtgtgaag ggagaacagg ggagcccagg gctggcaggt 1250
ccaagggag cccctggaca agctggccag aaggagagacc agggagtga 1300
aggatcttct ggggagcaag gagtaaaggg agaaaaagg gaaagagggt 1350
aaaactcagt gtccgtcagg attgtcggca gtagtaaccg aggccgggct 1400
gaagtttact acagtgttac ctgggggaca atttgcatg acgagtggca 1450
aaattctgat gccattgtct tctgccgat gctgggttac tccaaaggaa 1500
gggccctgta caaagtggga gctggcactg ggcagatctg gctggataat 1550
gttcagtgtc ggggcacgga gagtaccctg tggagctgca ccaagaatag 1600
ctggggccat catgactgca gccacgagga ggacgcaggc gtggagtgca 1650
gcgtctgacc cggaaccct ttcacttctc tgctcccgag gtgtcctcgg 1700
gctcatatgt gggaaggcag aggatctctg aggagttccc tggggacaac 1750
tgagcagcct ctggagaggg gccattaata aagctcaaca tcattga 1797

<210> 614
<211> 520
<212> PRT
<213> Homo Sapien

<400> 614
Met Arg Asn Lys Lys Ile Leu Lys Glu Asp Glu Leu Leu Ser Glu
1 5 10 15
Thr Gln Gln Ala Ala Phe His Gln Ile Ala Met Glu Pro Phe Glu
20 25 30

Ile	Asn	Val	Pro	Lys	Pro	Lys	Arg	Arg	Asn	Gly	Val	Asn	Phe	Ser	35	40	45
Leu	Ala	Val	Val	Val	Ile	Tyr	Leu	Ile	Leu	Leu	Thr	Ala	Gly	Ala	50	55	60
Gly	Leu	Leu	Val	Val	Gln	Val	Leu	Asn	Leu	Gln	Ala	Arg	Leu	Arg	65	70	75
Val	Leu	Glu	Met	Tyr	Phe	Leu	Asn	Asp	Thr	Leu	Ala	Ala	Glu	Asp	80	85	90
Ser	Pro	Ser	Phe	Ser	Leu	Leu	Gln	Ser	Ala	His	Pro	Gly	Glu	His	95	100	105
Leu	Ala	Gln	Gly	Ala	Ser	Arg	Leu	Gln	Val	Leu	Gln	Ala	Gln	Leu	110	115	120
Thr	Trp	Val	Arg	Val	Ser	His	Glu	His	Leu	Leu	Gln	Arg	Val	Asp	125	130	135
Asn	Phe	Thr	Gln	Asn	Pro	Gly	Met	Phe	Arg	Ile	Lys	Gly	Glu	Gln	140	145	150
Gly	Ala	Pro	Gly	Leu	Gln	Gly	His	Lys	Gly	Ala	Met	Gly	Met	Pro	155	160	165
Gly	Ala	Pro	Gly	Pro	Pro	Gly	Pro	Pro	Ala	Glu	Lys	Gly	Ala	Lys	170	175	180
Gly	Ala	Met	Gly	Arg	Asp	Gly	Ala	Thr	Gly	Pro	Ser	Gly	Pro	Gln	185	190	195
Gly	Pro	Pro	Gly	Val	Lys	Gly	Glu	Ala	Gly	Leu	Gln	Gly	Pro	Gln	200	205	210
Gly	Ala	Pro	Gly	Lys	Gln	Gly	Ala	Thr	Gly	Thr	Pro	Gly	Pro	Gln	215	220	225
Gly	Glu	Lys	Gly	Ser	Lys	Gly	Asp	Gly	Gly	Leu	Ile	Gly	Pro	Lys	230	235	240
Gly	Glu	Thr	Gly	Thr	Lys	Gly	Glu	Lys	Gly	Asp	Leu	Gly	Leu	Pro	245	250	255
Gly	Ser	Lys	Gly	Asp	Arg	Gly	Met	Lys	Gly	Asp	Ala	Gly	Val	Met	260	265	270
Gly	Pro	Pro	Gly	Ala	Gln	Gly	Ser	Lys	Gly	Asp	Phe	Gly	Arg	Pro	275	280	285
Gly	Pro	Pro	Gly	Leu	Ala	Gly	Phe	Pro	Gly	Ala	Lys	Gly	Asp	Gln	290	295	300
Gly	Gln	Pro	Gly	Leu	Gln	Gly	Val	Pro	Gly	Pro	Pro	Gly	Ala	Val	305	310	315
Gly	His	Pro	Gly	Ala	Lys	Gly	Glu	Pro	Gly	Ser	Ala	Gly	Ser	Pro			

cctgacacag attgatgtca atgtccagga tcatttctgg gatgggaagg 350
 gatgtgagat gatctgttac tgcaacttca gcgaattgct ctgctgcca 400
 aaagacgttt tctttggacc aaagatctct ttcgtgattc cttgcaacaa 450
 tcaatgagaa tcttcatgta ttctggagaa caccattcct gatttccac 500
 aaactgcaact acatcagtat aactgcattt ctagtttcta tatagtgcaa 550
 tagagcatag attctataaa ttcttacttg tctaagacaa gtaaattctgt 600
 gttaaacaag tagtaataaa agttaattca atctaaaaaa aaaaaaa 647

<210> 616
 <211> 98
 <212> PRT
 <213> Homo Sapien

<400> 616

Met	Lys	Leu	Met	Val	Leu	Val	Phe	Thr	Ile	Gly	Leu	Thr	Leu	Leu
1				5					10					15
Leu	Gly	Val	Gln	Ala	Met	Pro	Ala	Asn	Arg	Leu	Ser	Cys	Tyr	Arg
			20					25						30
Lys	Ile	Leu	Lys	Asp	His	Asn	Cys	His	Asn	Leu	Pro	Glu	Gly	Val
			35					40						45
Ala	Asp	Leu	Thr	Gln	Ile	Asp	Val	Asn	Val	Gln	Asp	His	Phe	Trp
			50					55						60
Asp	Gly	Lys	Gly	Cys	Glu	Met	Ile	Cys	Tyr	Cys	Asn	Phe	Ser	Glu
			65					70						75
Leu	Leu	Cys	Cys	Pro	Lys	Asp	Val	Phe	Phe	Gly	Pro	Lys	Ile	Ser
			80					85						90
Phe	Val	Ile	Pro	Cys	Asn	Asn	Gln							
			95											

<210> 617
 <211> 2558
 <212> DNA
 <213> Homo Sapien

<400> 617

cccacgcgtc cgcgacgcg tgggtctggac ccaggtctg gagcgaattc 50
 cagcctgcag ggctgataag cgaggcatta gtgagattga gagagacttt 100
 accccgccgt ggtggttggg gggcgcgag tagagcagca gcacaggcgc 150
 ggggtcccggg aggccggctc tgctcgcgcc gagatgtgga atctccttca 200
 cgaaaccgac tcggctgtgg ccaccgcgcg ccgcccgcgc tggctgtgcg 250
 ctggggcgct ggtgctggcg ggtggcttct ttctcctcgg cttcctcttc 300

ggggtggttta taaaatcctc caatgaagct actaacatta ctccaaagca 350
 taatatgaaa gcatttttgg atgaattgaa agctgagaac atcaagaagt 400
 tcttacataa ttttacacag ataccacatt tagcaggaac agaacaaaac 450
 tttcagcttg caaagcaaat tcaatcccag tggaaagaat ttggcctgga 500
 ttctgttgag ctagctcatt atgatgtcct gttgtcctac ccaaataaga 550
 ctcatcccaa ctacatctca ataattaatg aagatggaaa tgagattttc 600
 aacacatcat tatttgaacc acctcctcca ggatatgaaa atgtttcggg 650
 tattgtacca cttttcagtg ctttctctcc tcaaggaatg ccagagggcg 700
 atctagtgtg tggttaactat gcacgaactg aagacttctt taaattggaa 750
 cgggacatga aaatcaattg ctctgggaaa attgtaattg ccagatatgg 800
 gaaagttttc agaggaaata aggttaaaaa tgcccagctg gcaggggcca 850
 aaggagtcac totctactcc gacctgctg actactttgc tcctgggggtg 900
 aagtcctatc cagacggttg gaatcttcct ggaggtgggtg tccagcgtgg 950
 aaatatccta aatctgaatg gtgcaggaga ccctctcaca ccaggttacc 1000
 cagcaaatga atatgcttat aggcgtggaa ttgcagaggc tgttggtctt 1050
 ccaagtattc ctgttcatcc aattggatac tatgatgcac agaagctcct 1100
 agaaaaaatg ggtggctcag caccaccaga tagcagctgg agaggaagtc 1150
 tcaaagtgcc ctacaatgtt ggacctggct ttactggaaa cttttctaca 1200
 caaaaagtca agatgcacat ccactctacc aatgaagtga cgagaattta 1250
 caatgtgata ggtactctca gaggagcagt ggaaccagac agatatgtca 1300
 ttctgggagg tcaccgggac tcatgggtgt ttggtggtat tgaccctcag 1350
 agtggagcag ctgttgttca tgaaattgtg aggagctttg gaacactgaa 1400
 aaaggaaggg tggagacctg gaagaacaat tttgtttgca agctgggatg 1450
 cagaagaatt tggctcttctt ggttctactg agtgggcaga ggagaattca 1500
 agactccttc aagagcgtgg cgtggcttat attaattgctg actcatctat 1550
 agaaggaaac tacactctga gagttgattg tacaccgctg atgtacagct 1600
 tggtagacaa cctaacaaaa gagctgaaaa gccctgatga aggctttgaa 1650
 ggcaaatctc tttatgaaag ttggactaaa aaaagtcctt cccagagtt 1700
 cagtggcatg ccagagataa gcaaatggg atctggaaat gattttgagg 1750

tggtcttcca acgacttgga attgcttcag gcagagcacg gtataactaaa 1800
 aattgggaaa caaacaatt cagcggctat ccactgtatc acagtgtcta 1850
 tgaaacatat gagttggtgg aaaagtttta tgatccaatg tttaaatatc 1900
 acctcactgt ggcccaggtt cgaggagggg tgggtgttga gctagccaat 1950
 tccatagtgc tcccttttga ttgtcgagat tatgctgtag ttttaagaaa 2000
 gtatgctgac aaaatctaca gtatttctat gaaacatcca caggaaatga 2050
 agacatacag tgtatcattt gattcacttt tttctgcagt aaagaatttt 2100
 acagaaattg cttccaagtt cagtgcagaga ctccaggact ttgacaaaag 2150
 caaccctaata gtattaagaa tgatgaatga tcaactcatg tttctggaaa 2200
 gagcatttat tgatccatta ggggttaccag acaggccttt ttataggcat 2250
 gtcacttatg ctccaagcag ccacaacaag tatgcagggg agtcattccc 2300
 aggaatttat gatgctctgt ttgatattga aagcaaagtg gacccttcca 2350
 aggcctgggg agaagtgaag agacagattt atgttgcagc cttcacagtg 2400
 caggcagctg cagagacttt gagtgaagta gctaagagg attttttaga 2450
 gaatccgtat tgaatttgtg tggatatgtca ctcaaaaaga atcgtaatgg 2500
 gtatattgat aaattttaaa attggtatat ttgaaataaa gttgaatatt 2550
 atatataa 2558

<210> 618

<211> 750

<212> PRT

<213> Homo Sapien

<400> 618

Met	Trp	Asn	Leu	Leu	His	Glu	Thr	Asp	Ser	Ala	Val	Ala	Thr	Ala
1				5					10					15
Arg	Arg	Pro	Arg	Trp	Leu	Cys	Ala	Gly	Ala	Leu	Val	Leu	Ala	Gly
			20					25						30
Gly	Phe	Phe	Leu	Leu	Gly	Phe	Leu	Phe	Gly	Trp	Phe	Ile	Lys	Ser
			35					40						45
Ser	Asn	Glu	Ala	Thr	Asn	Ile	Thr	Pro	Lys	His	Asn	Met	Lys	Ala
			50					55						60
Phe	Leu	Asp	Glu	Leu	Lys	Ala	Glu	Asn	Ile	Lys	Lys	Phe	Leu	His
			65					70						75
Asn	Phe	Thr	Gln	Ile	Pro	His	Leu	Ala	Gly	Thr	Glu	Gln	Asn	Phe
			80					85						90

Gln	Leu	Ala	Lys	Gln	Ile	Gln	Ser	Gln	Trp	Lys	Glu	Phe	Gly	Leu	95	100	105
Asp	Ser	Val	Glu	Leu	Ala	His	Tyr	Asp	Val	Leu	Leu	Ser	Tyr	Pro	110	115	120
Asn	Lys	Thr	His	Pro	Asn	Tyr	Ile	Ser	Ile	Ile	Asn	Glu	Asp	Gly	125	130	135
Asn	Glu	Ile	Phe	Asn	Thr	Ser	Leu	Phe	Glu	Pro	Pro	Pro	Pro	Gly	140	145	150
Tyr	Glu	Asn	Val	Ser	Asp	Ile	Val	Pro	Pro	Phe	Ser	Ala	Phe	Ser	155	160	165
Pro	Gln	Gly	Met	Pro	Glu	Gly	Asp	Leu	Val	Tyr	Val	Asn	Tyr	Ala	170	175	180
Arg	Thr	Glu	Asp	Phe	Phe	Lys	Leu	Glu	Arg	Asp	Met	Lys	Ile	Asn	185	190	195
Cys	Ser	Gly	Lys	Ile	Val	Ile	Ala	Arg	Tyr	Gly	Lys	Val	Phe	Arg	200	205	210
Gly	Asn	Lys	Val	Lys	Asn	Ala	Gln	Leu	Ala	Gly	Ala	Lys	Gly	Val	215	220	225
Ile	Leu	Tyr	Ser	Asp	Pro	Ala	Asp	Tyr	Phe	Ala	Pro	Gly	Val	Lys	230	235	240
Ser	Tyr	Pro	Asp	Gly	Trp	Asn	Leu	Pro	Gly	Gly	Gly	Val	Gln	Arg	245	250	255
Gly	Asn	Ile	Leu	Asn	Leu	Asn	Gly	Ala	Gly	Asp	Pro	Leu	Thr	Pro	260	265	270
Gly	Tyr	Pro	Ala	Asn	Glu	Tyr	Ala	Tyr	Arg	Arg	Gly	Ile	Ala	Glu	275	280	285
Ala	Val	Gly	Leu	Pro	Ser	Ile	Pro	Val	His	Pro	Ile	Gly	Tyr	Tyr	290	295	300
Asp	Ala	Gln	Lys	Leu	Leu	Glu	Lys	Met	Gly	Gly	Ser	Ala	Pro	Pro	305	310	315
Asp	Ser	Ser	Trp	Arg	Gly	Ser	Leu	Lys	Val	Pro	Tyr	Asn	Val	Gly	320	325	330
Pro	Gly	Phe	Thr	Gly	Asn	Phe	Ser	Thr	Gln	Lys	Val	Lys	Met	His	335	340	345
Ile	His	Ser	Thr	Asn	Glu	Val	Thr	Arg	Ile	Tyr	Asn	Val	Ile	Gly	350	355	360
Thr	Leu	Arg	Gly	Ala	Val	Glu	Pro	Asp	Arg	Tyr	Val	Ile	Leu	Gly	365	370	375
Gly	His	Arg	Asp	Ser	Trp	Val	Phe	Gly	Gly	Ile	Asp	Pro	Gln	Ser			

Ile	Asp	Pro	Leu	Gly	Leu	Pro	Asp	Arg	Pro	Phe	Tyr	Arg	His	Val
				680					685					690
Ile	Tyr	Ala	Pro	Ser	Ser	His	Asn	Lys	Tyr	Ala	Gly	Glu	Ser	Phe
				695					700					705
Pro	Gly	Ile	Tyr	Asp	Ala	Leu	Phe	Asp	Ile	Glu	Ser	Lys	Val	Asp
				710					715					720
Pro	Ser	Lys	Ala	Trp	Gly	Glu	Val	Lys	Arg	Gln	Ile	Tyr	Val	Ala
				725					730					735
Ala	Phe	Thr	Val	Gln	Ala	Ala	Ala	Glu	Thr	Leu	Ser	Glu	Val	Ala
				740					745					750

<210> 619

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 619

agatgtgaag gtgcaggtgt gccg 24

<210> 620

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 620

gaacatcagc gctcccggta attcc 25

<210> 621

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 621

ccagcctttg aatggtacaa aggagagaag aagctcttca atggcc 46

<210> 622

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 622

ccaaactcac ccagtgagtg tgagc 25

<210> 623
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 623
tgggaaatca ggaatggtgt tctcc 25

<210> 624
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide probe

<400> 624
cttgttttca ccattgggct aactttgctg ctaggagttc aagccatgcc 50